ENLIVENING AGRICULTURE IN BEDFORDSHIRE.
MODERN MACHINERY AND FAST HAYMAKING. Illustrated.

COUNTRY LIFE

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20, TAVISTOCK STREET, STRAND, LONDON, W.C. 2.

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COUNTRY LIFE

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ELLIOTT & FRY. 55, Baker Street, W.

MISS ELLISON-MACARTNEY.

COUNTRY LIFE

THE JOURNAL FOR ALL INTERESTED IN COUNTRY LIFE & COUNTRY PURSUITS

OFFICES: 20, TAVISTOCK STREET, COVENT GARDEN, W.C.

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OUR GARDENING ALLIES

EVEN in the midst of war we hope our readers will not think it out of place if we ask a little consideration for what may be deemed a matter of minor moment. In our "Correspondence" columns there will be found a communication enumerating a few of the small birds that were found missing from their usual haunts this summer. Perhaps the most striking absentee is the wren, the jenny wren, as she has been affectionately termed for hundreds of years. This quaint little creature with its restless tail and short quivering wings had grown to be familiar in every garden of Great Britain. It delighted to be among bushes and young trees, and old houses and rotting trunks and gateposts, on all of which sites it managed to build in the most unobtrusive, inconspicuous manner its tiny domed nest with an opening scarce large enough to admit your finger. Nobody ever had a word to say against the wren, although for some inscrutable reason hunting the wren was considered by our forefathers the pastime appropriate to St. Stephen's Day. But even they did not urge against it any accusation. It was only that they liked to hunt something, were it but a tiny bird. This charming and familiar creature has practically disappeared from the garden. One does not like to say from every garden, because conditions vary so much, and in some perhaps there was more shelter than in others during the long and killing frosts which destroyed so many of our small birds. One cannot say that the wren is extirpated—although about a dozen owners of gardens whom we have consulted say that they have not seen one this year—but it is very sadly decreased in numbers. So are those birds so different in character from the wren, the tits, the bold little acrobats of the garden, who have delighted us all with the tricks they play with the nutshells in winter. Their loss is a calamity, for they derive a large portion of their diet from the insects and grubs they pick up on fruit trees. From one or two correspondents we have heard that they are as numerous as ever, but if that is so they must have enjoyed exceptional advantages. From the majority of gardens the tit has disappeared, if not altogether, to such an extent as to make the sight of one a rarity. Nor can we wonder at this when the familiar robin redbreast, that during the last twenty-five years has multiplied without check or hindrance, has by one fell stroke of winter been brought as near extermination as the song thrush or the blackbird, both of which have almost disappeared since the great snowstorm.

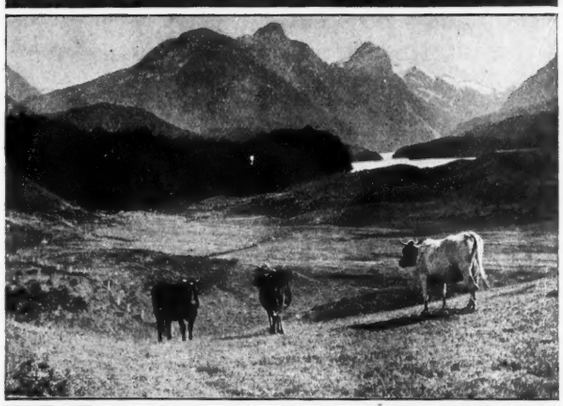
We allude to these facts mainly for the purpose of enforcing a plea for the protection of these birds. They are very apt to suffer in these times when innumerable societies are offering young people money for the eggs or heads of mischievous birds. Although very conscious of the depredations of the sparrow and recognising that the man whose livelihood depends on his cultivation cannot allow thieving to go on wholesale, we feel some doubt as to the policy of encouraging children to take the eggs and kill the young. To say the least, that must have a hardening effect upon them. But our point here is that children of the village do not discriminate very well between different species of birds. If they are encouraged to kill sparrows and take away their eggs, some at least of them will carry the killing process far beyond the bounds set by their guardians and preceptors. Therefore, it must be made clear to them that there is a very great difference between the destructive birds and those that are the friends of the gardener and the farmer. In a word, those sadly diminished families must be nursed back into something like their old prosperity. There is no doubt that the cause of their present scarcity can be traced to the extraordinary number of deaths that took place during the long frost. Birds could be counted lying dead in tens and twenties in shrubberies and other places where they were accustomed to roost at night. They were glad to creep into the hearts of evergreen bushes, but it could not be expected that when such very hardy trees as the laurel were almost killed by the frost so that whole boughs were browned by it, a small bird roosting even under the thick shelter would be able to stand the cold. They seem to have been frozen and toppled over during the night. The story reminds us of Tennyson's line about Nature "red in tooth and claw," more cruel than any other agency whatsoever. It may be that in the distractions due to war many an owner of a garden has not noticed the absence of the many birds that were made welcome in past summers. For that reason we are directing attention to it in order that there may be afforded to them such protection as is possible under the circumstances. Friends of the garden birds should see to it that no destruction of the nests, eggs or young of their favourites is involved in the war against sparrows. Feeding is far from being required at this season of the year, but there are many other ways of fostering and guarding the dwindling tribes.

Our Frontispiece

OUR frontispiece this week is a portrait of Miss Ellison-Macartney, daughter of the Right Hon. Sir William Grey Ellison-Macartney, K.C.M.G., Governor of Tasmania since 1913.

**** It is particularly requested that no permissions to photograph houses, gardens or livestock on behalf of COUNTRY LIFE be granted except when direct application is made from the offices of the paper. When such requests are received, the Editor would esteem the kindness of readers if they would forward the correspondence at once to him.*

COUNTRY NOTES



LORD RHONDDA in his position as Food Controller will be well advised to face the fact at once that there will be a great scarcity of cereals during the coming winter. Under the most favourable circumstances there could not now be an average crop in this country. One of the most experienced agriculturists, discussing the question with the writer one day last week, said that oats were considerably below the average, barley was just about an average, and, after making the remark that wheat was better than he expected, qualified it by saying, "This is only the beginning of July, and much too early to give a decided opinion. Although the wheat is looking well in my county, a heavy rain would probably lay it and spoil the prospect." Unfortunately, that heavy rain came on Sunday, and a great deal of wheat is already laid. That was in a district where the winter frosts had not been felt so severely as in some others. Over the greater part of the country winter wheat was very thin at the best, and spring-sown wheat is extremely short in the straw. It is best to look the facts steadily in the face so that measures may be taken in time.

FORTUNATELY, the potato crop promises to be unusually large, and arrangements should be made for taking full and economical advantage of it. The tendency is to use potatoes very freely at the beginning of the season when they are plentiful, and there is a great temptation to dig them when they are young and not full grown. This may be avoided by adopting the system of continuous cropping which has come to be associated with the name of Mr. Wibberley. If the earth is partially removed so as to expose the roots, the larger potatoes can be taken for consumption and those that are smaller left to grow, which they will do without any injury or set-back to the plant if the operation is performed carefully. Other garden produce is on the whole satisfactory, although complaints are rife that celery and parsnip plants have been on a large scale attacked by maggot. This is all the more serious because, after the boom in parsnips last year, vast quantities were sown in the present spring, and no doubt a great many people depended upon them for a supply of food. It is probable, however, that the attack by insects will be less felt now that we seem to have come to an end of the long spell of dry weather.

BEDFORDSHIRE, which forms the subject of an article in to-day's issue, is a county which is doing well agriculturally and from which much is expected. It has had the advantage of possessing many generations of landowners who have taken a keen interest in husbandry. It is sufficient to mention among them the names of the Dukes of Bedford, the Lords de Grey, and the Whitbreads. These are only a few of the families associated with the progress of agriculture in Bedfordshire. But also the successive Dukes of Bedford have usually had in their employment a distinguished agriculturist as head agent. A century ago it was Mr. Stone, who wrote an admirable survey of the county, and till lately it was Mr. Prothero, who, when the War Agricultural Committee was started, was its first chairman, although on receiving a portfolio as President of the Board of Agriculture he had to resign the minor office. But whatever Mr. Prothero achieves in Whitehall, he will always be remembered in the county as one of the most active, intelligent and sympathetic representatives of the great landowners. He is never thought of as possessing the prejudices usually but unjustly attributed to that class, but was ever of an open mind and conspicuous fairness that led him to investigate and understand all the various sides of the great industry.

IN the current number of the Journal of the Board of Agriculture and Fisheries there is a casual little paragraph which expresses a policy that is new to a great many English farmers. We cannot help thinking that if the Board have really decided that it is the right agricultural policy to plough up grass, on the assumption that by so doing they are increasing production and not interfering with the milk supply, this should be brought forward in some far more effective and striking manner. Within a small circle it may sound a commonplace. Those who have given attention to the matter are aware that in Denmark especially, but also in Holland and Belgium, it has been found that arable cultivation is consistent with the maintenance of a full milk supply. But it would be a very great mistake to suppose that the average English dairy farmer has found this out from his own experience or is at all inclined to accept it on anybody's authority. Where farmers have the shaping of the agricultural policy of a county they are, as a rule, scrupulously careful to avoid ploughing up any grass that is useful for pasturing cows. It is news to them that they could feed the cows even better if they turned the permanent pasture into arable. Now, the Board ought to take this into account. They are probably right in their contention, and we are by no means criticising the opinion expressed, but if any good is to be done means must be taken to bring this information right in front of the dairy farmers. The latter never concern themselves with journals or notices or leaflets. If they have to be brought round to a new way of thinking it will be necessary to take strong and effective steps for the purpose. It is of no use at all enunciating in a casual paragraph what to the ordinary dairy farmer is a novel doctrine.

"R.N.A.S."

From the sea to the air the order goes
"Carry on, carry on there";
From the air to the sea the cheery shout
"Ay, ay, sir! Ay, ay, sir!"

Sailormen still in the boundless blue,
With the Fleets below our throbbing planes
Like tiny toys with playbox guns;
We have changed our ships but the spirit remains.
We spot the enemy in his lair
And take neat plans of his forts and quays,
We hover above his building slips
And harry his soul in the same old ways.
We patrol the air and scout for news,
We watch and we wait as we did of old;
Our "lawful occasions" are still the same—
So, when we strike, the stroke is bold.

From the sea to the air the order goes
"Carry on, carry on there";
From the air to the sea the far-away shout
"Ay, ay, sir! Ay, ay, sir!"

M. G. MEUGENS.

A CORRESPONDENT who writes this week about the extraordinary paucity of birds in the garden this year puts on paper what many people are noticing. The terrible frost of last year was disastrous to the small indigenous birds. Nothing since the record frost of 1894–95 has occurred so greatly to reduce their numbers. A Norfolk landowner who is also a considerable ornithologist in his own way informed us at the time that small birds were seen dead by hundreds at the foot of his trees. They did not seem to have died of starvation. He examined a number of crops and did not find a single one empty. What occurred, in his opinion, was that the little songsters during the course of the long snowstorm—almost unique in the weather annals of Great Britain—were frozen to their perches and dropped with the morning's softening or thaw. Let the explanation be what it may, the fact is certain that the stock of such birds as the wren and robin, various sorts of tits, blackbirds and thrushes, linnets and finches, was enormously reduced by that long, hard spell of winter. To some extent this probably accounts for the enormous number of insect pests

that have riddled the foliage this year. Elms, oaks and other timber trees have suffered even more than the fruit trees.

BUT the farmer has reason to complain that although his feathered friends have been sadly diminished, his foes are as numerous as ever. In spite of all the sparrow clubs that have been invented, it is vexatious at the present moment to see clouds of these little thieves settling on the oats which have not yet begun to ripen and extracting the half-formed grain. They go marauding in millions, and it is very evident that strong measures will have to be taken with them. Nor, in spite of all the shooting that went on in winter, does there seem to be any diminution of the wood-pigeon, one of the worst enemies that the corn-grower has to deal with. The problem is rendered all the more difficult because of the new regulations affecting the issue of cartridges. These are granted only in small quantities and after severe examination. Their cost, too, has gone up considerably. The consequence is that the ravages of these birds are not effectively checked. Rooks and starlings also appear to be just as numerous as ever they were. In fact, it is a plausible explanation of the prosperity of these species that they are better able to withstand the privation and cold of winter than thrushes, blackbirds, robins, wrens, tits, and other little creatures that are accustomed to thin the insect pests.

LOVERS of what is old will not be able to avoid a regret more or less sentimental that the most ancient of rural industries has been brought to what appears to be a definite end. Flint-knapping has ceased to be a pursuit at Brandon. It has been carried on there since time immemorial. In the pits or in their neighbourhood have been discovered stags' horns and other implements of horn which were probably used before the Iron Age. The occupation went on during all the intervening centuries, because in spite of modern improvements there was always something to do. When white gunners gave up the flint for the cartridge, there was still a great demand which came to Brandon from the coloured populations of the world. It was a settled policy of colonising Powers to prevent them from acquiring breechloading guns and ball cartridges. That barrier, however, had been breaking down for years before the war. After hostilities commenced there was an extraordinary boom in the industry, because soldiers in the trenches during the fearfully wet summer and autumn of 1914 could not use matches and were glad to revert to the old system of lighting their pipes with flint and steel. But invention put an end to that. Someone discovered that a very tiny morsel of flint with an automatic apparatus could be cheaply manufactured and was far superior to the ruder product of Brandon. So once more the knapper was thrown on his resources, and it appears now that his vocation has gone altogether.

WE are indebted to a correspondent for drawing attention to a passage in "Don Quixote," which she describes as "a nice little extract about the food crisis":

"I have here an onion," replied the squire, "a piece of cheese and a few stale crusts of bread; but sure such coarse fare is not for such a brave knight as your worship." "Thou art greatly mistaken, friend Sancho," answered Don Quixote; "know that it is the glory of knights-errant to be whole months without eating. . . . I never could find that the knights-errant ever ate, unless it were by mere accident . . . at other times they indulged themselves with little other food beside their thoughts. . . . As they spent the greater part of their lives in forests and deserts, and always destitute of a cook . . . their usual food was but such coarse country fare as thou offered me." . . . "I beg your worship's pardon," cried Sancho; "for, as I was never bred a scholar I may chance to have missed in some main point of your laws of knighthood; but, from this time forward, *I will be sure to stock my wallet with all sorts of dry fruits* for you, because your worship is a knight." . . . "I do not say, Sancho," replied Don Quixote, "that a knight-errant is obliged to feed altogether upon fruit; I only mean that this was their common food, together with some roots and herbs, which they found up and down the fields, of all which they had a perfect . nowledge, as I myself have." "It is a good thing to know those herbs," cried Sancho; "*for I am much mistaken or that kind of knowledge will stand us in good stead ere long.*"

The italics are ours.

AT the conference held on Monday afternoon between the Ministry of Food and a number of journalists, Mr. Alan Anderson, who was in the chair, said far too much about what he assumed to be the demand for "palatability." If there was nothing more in the public complaints than this, they would be deserving of complete neglect. In war-time the citizen would be very unpatriotic indeed if he rebelled against bread because it was not to his taste—a taste that has been rendered fastidious by long use of only the finest flour. But in point of fact the public, as distinct from the bakers, on whom a great deal of responsibility was placed, reject the bread because it is unwholesome. It was urged that this was a fault of the mixing and preparation and that war bread skilfully mixed and well baked was good and digestible. But the point is, that if adulteration is permitted to the amount of 15 per cent. it is impossible to secure that the whole of it shall be skilfully mixed; and if it is not, the baker is not to blame for turning out bad loaves. On the other hand, very great ignorance was displayed as to the nature of "rope." Professor Hardy, who was present, began some experiments before this outcry, but he has not yet completed them. The problem confronting bakers is that of its elimination. He told the audience that a boiling of five hours will not destroy this germ, and it was well understood fifty or sixty years ago, when the disease was much more prevalent than it is to-day, that it would return in six weeks after the utensils of the bakery had been destroyed by burning. Another matter not clearly dealt with is the effect of using bean flour. Its tendency to decay may account, and probably does account, for the going wrong of so many loaves.

MR. ANDERSON, who is Vice-Chairman of the Wheat Commission and well known as a very able business man, evidently has not given much attention to bread making. Yet he admitted, in answer to various questions, that a solution could be found in the way we have suggested. A wheat loaf would meet all the requirements of the Food Ministry if it were milled to the extent of 95 per cent. of wheat. That would undoubtedly be a coarse loaf, but it would be homogeneous and therefore could be milled and baked on a uniform system. Science could deal with any germs, because science would have placed before it a clear and simple problem; whereas the mixture gives rise to one that is extremely complicated. If a wheat loaf is possible, so is barley bread, rye bread, and possibly, though we do not speak with certainty about this, maize bread. Here then is a simple and clear way out of the difficulty, a way admitted to be possible by the Food Ministry, and if adopted we could get rid, once and for ever, of this pottering with admixtures which leads the way not only to very great difficulties in the bakehouse, but to sheer adulteration on the part of the unscrupulous. It is the solution on which the public should set its mind.

WILD HONEYSUCKLE.

It poured its sweetness through the summer rain,
And I raised covetous hands, the flower and I being twain.

A whisper from the soul said, "This resign;
Let it live out its hour: 'tis even less than thine."

Less—even less! . . . O thrill of pity and pain,
Kinship to drown the eyes in more than summer rain,

Kinship to warm with more than summer sun:
I went my homeward way, the flower and I being one.

I hold no sweet that would have died to-night;
I guard the memory of a supreme delight!

V. H. FRIEDLAENDER.

"THE French had a greater abhorrence of war even than ourselves," wrote Mr. Clutton-Brock in his introduction to "Letters of a Soldier," which was reviewed in our pages a fortnight ago. A correspondent recalls the fact that the Frenchman who probably knew England best held a different opinion. Froissart said of the English: "They delight and take comfort in battles and slaughter. This is but one of many reflections that are worth recalling at the moment, such as: "The English will suffer for a time, but in the end they take such bloody payment as may well serve for an example; nor can they be played with." Again, "They think their land is more full of riches and all things good when they are at war than in times of peace." Finally, it should be noted that the brilliant French writer considered these were lasting characteristics of the race: "Such are their conditions to which they hold and have always held and always will hold so long as England remains a habitable land." A few centuries have passed since Froissart wrote, but there is no reason to believe that human nature is modified to any perceptible degree in a few centuries or even a few thousand years, and the probability is that the Englishman of to-day is very much what he was in the fourteenth century, saving his ability to use deadlier weapons and many inventions of one kind and another.

ENLIVENING AGRICULTURE

V.—BEDFORDSHIRE.

AN energetic Executive Committee of farmers, with Mr. William Ell as Chairman and Mr. Evitt Robinson as Executive Officer, is doing excellent work in Bedfordshire. Over a thousand acres have this year been brought under the plough and are bearing crops that will form a real addition to the national food resources, and work for the harvest of 1918 is proceeding apace. The Bedfordshire farmer has long favoured the steam plough for turning up hard ground, and probably there is more tackle of this kind in Bedfordshire than in any other county of Great Britain. They are hard at work now, and by the end of the year will have accounted for a very large area of what was indifferent pasture. Complete returns are not yet available, but if one may judge from the figures relating to one-third of the parishes they are likely to prove highly satisfactory.

To understand these figures it is necessary to know something about the very businesslike system which has been carried out. There are 140 parishes in the county and these have been divided under twelve "organisers," each of whom has the oversight of 25,000 acres. They have made two surveys of which it may be convenient to deal with the later one first, as its object was to define the grass area that could be most advantageously brought under the plough, so as to comply with the wishes of the Board of Agriculture. Each organiser is held responsible for the recommendation made in regard to his particular district, but he was enjoined to nominate three practical farmers as his assistants, and also advised to avail himself of the assistance of a professional surveyor. Upon each and all, the organiser and his helpers, it was impressed that this Committee had been asked to find an increased area for cultivation approximating to 30,000 acres "and that an endeavour should be made to get as near this area as possible." I was very much pleased with the very useful type of map drawn up by these gentlemen. It is coloured in accordance with the cultivation. The white portions indicate tillage land not calling for interference, the green is for pastures which it is desirable to maintain. Altogether five colours are employed, of which I give a list with the explanations from the "Suggestions for the Guidance of Organisers":

Upon inspection, the grass fields inspected should be classed in five categories, and scheduled with the acreages, and coloured as indicated.

(*a*) Must come up at once. (Coloured crimson red.)

(*b*) Must come up in the month of July or thereabouts, after a mow or having been grazed to that date. (Coloured yellow.)

(*c*) Should be broken up previous to the autumn. (Coloured blue.)

(*d*) Might in the event of continual pressure for more land be ploughed up during late autumn or winter. (Coloured brown.)

Besides being coloured, each plot is numbered so that when discussion arises the area referred to can be identified at once. With this explanation the reader will readily understand the following figures, which summarise complete ploughing returns for 45 parishes, or, roughly speaking, one-third of the county, up to the first week in July. There had been brought in

1,449	acres	under	Class	A.—Poor pasture.
1,378	,,	,,	,,	B.—Poor but mowed or grazed.
177	,,	,,	,,	C.—Should be ploughed before autumn.
914	,,	,,	,,	D.—To be ploughed under pressure.
3,918	Total for 45 Parishes.			

This is an excellent beginning, but it should be noted that it will not serve as data for a complete estimate for the county. Among the paternal injunctions of the Executive Committee is one which excuses the organisers for any delay in sending in the report. It runs thus: "*It is more necessary to do the work than to hasten the delivery of all reports.*" (The italics are in the original.) One cannot help crying, "Well done!" to this honest farmer-like declaration that to get on with the ploughing is more essential than attention to red tape.

By what means has the work been accomplished? There has been a fair supply of labour and machinery. I do not wish to insinuate that the Bedfordshire farmer has been on a bed of roses. He doubtless thinks the opposite. But he has not been worse off, to say the least, than his neighbours in other counties. He is not making a rush to take advantage of the offer of German prisoners, but our own soldier farm servants did very well as far as they went. And the military authorities seem to have co-operated as far as was consistent with the extreme necessity of maintaining our army in Flanders. Then there is an admirable organisation for women workers of which Mrs. Whitbread is president. Always there have been women workers in the villages of this county, and these have been largely recruited until women labour has come to be a very important item. Also arrangements have been made for the training of girl volunteers, who go for a period to farmers willing to train them. Arrangements for boarding them are working satisfactorily either at the Hostel or in suitable houses. Quite a considerable number have been trained to earn their livelihood at farm work. The schoolboys, too, have afforded most useful assistance. Bedford is, of course, famous for its educational establishments. Three schools have come especially to the front: The Grammar School, Bedford; The Modern School, Bedford; and the Grammar School at Dunstable. A notice issued by the Executive Committee will explain the arrangement.

NOTICE.

SCHOOLBOYS FOR HARVEST.

The attention of occupiers of land is called to the fact that a number of Schoolboys will be available for the Hay Harvest any day after 2.30 p.m.

The boys are sent out in charge of a Master or Monitor.

Applications for the assistance of these boys should be made to L. C. R. Thring, Esq., School House, Dunstable.

If a telegram is received by Mr. Thring before noon the boys would be on the Farm, if near to Dunstable, by 2.30 p.m. the same day.

Usually from twenty to thirty pupils under the care of a master answer the call, and the farmers are well pleased with their assistance.

In regard to the use of machinery, it will be remembered that the shire, as has been said, is notable for its exceptionally large supply of steam tackle, and it has been very greatly utilised for the purpose of breaking up grassland. The tractor plough has not been so freely utilised for this purpose as might have been expected. Bedfordshire may fairly be expected to take the lead in adopting new machinery in the manufacture of which it has attained considerable distinction. Further, it has been specially under the fostering care of the present Minister for Agriculture. Before Mr. Prothero attained that position he was already the leading agriculturist of the county and, indeed, was the first chairman of the War Committee, a position that he only vacated in order to take up his duties at Whitehall. And the Board cannot be fully exonerated from being responsible in some degree for the coldness of many farmers to the tractor plough. I am not referring to Bedfordshire alone in this matter, but to farmers all over the country. They call to mind the many failures and breakdowns, and say that it is useless for ploughing up hard, dry clay. The opinion in Bedfordshire, as far as I can gather it, is that the tractor is excellent for light or highly cultivated soil, but not so good as the steam tackle for land that has been practically derelict or lying in pasture for the last thirty years or so. As the opinion of keen, able cultivators, the last assertion cannot be ignored. It is probably true in regard to the worst kind of dry and obdurate clay. But a friend of my own who has used it to bring in some very strong land in the height of the dry season is delighted with the result. The weight of the tractor acting as a roller has broken up the clods splendidly and given him a magnificent tilth. Where the Board was at fault was in not foreseeing the trouble sure to follow if the tractor plough were sent out with young, raw or inexperienced drivers. It is safe to say that nineteen out of every twenty mishaps were preventable. Those who had taken pains to get the right driver have practically had no mishaps, that is, if they got the right tractor plough. It is absurd to expect that those which were invented to turn over 12in. of loose humus should be able to make a 5in. furrow in English clay.

Another point worth touching on is the very great pains which the Executive Committee has taken to preserve the good pastures. They are very much alive to the importance of maintaining the dairy herds and the milk supply. A most laudable aim. Nothing is more to be desired than the maintenance and, if possible, increase of the milk supply. In that lies the key to reducing infant mortality, the idea uppermost in the general mind just now. Mr. Ell and his coadjutors have done their best in that way. The dairy industry has attained very considerable dimensions in the county, although of comparatively recent origin, for

agriculture in the county has been subject to many great changes during the centuries. But the most interesting occurred in a time of war analogous to our own, viz., that of the Peninsular War. In "A General View of the Agriculture of the County of Bedford," issued in 1794 by William Stone, agent to the Duke of Bedford, "the meadow land" was given as 68,100 acres, and this area was largely diminished during the early years of the nineteenth century, when the extraordinary prices of wheat produced a kind of wheat fever in the agricultural mind. In many counties such as Lincolnshire and Yorkshire, moorland, down and waste were hurriedly ploughed and reclaimed. You can see the furrow marks to-day on land that has long been abandoned again to Nature. Bedfordshire did not possess much waste, but it had 21,900 acres of woodland which were speedily reduced by more than a third. Trees were ruthlessly cut down to make place for wheat, and the timber to a great extent was wastefully burnt on the spot. Farmers required no guarantee of minimum prices in those days and no guidance by war committees. Of their own accord they put every scrap of energy into wheat growing. It was carried on, though not without vicissitudes, up to 1879, when British agriculture received a serious check owing to a series of bad seasons synchronising with a vastly extended importation of wheat. After a hundred years history is repeating itself.

During this period the dairy industry has been steadily developing, and hence the natural solicitude that the good pasture should be maintained. The Executive Committee has gone on the principle of making careful enquiries about the number of cows kept before ordering pasture to be broken up. Under the circumstances they are justified. But a notice sent out by the Board of Agriculture seems expressly designed to warn them against taking this course. "In some counties," says the notice, "there seems to be an idea that dairy cows and other cattle can only be kept when large areas of permanent grassland are available."

The notice goes on to say that the Hon. Edward Strutt finds he can keep a cow to the acre when the produce of arable was used to help with the herd's keep, while "Mr. Currie, who farms for cow-keeping, thought three-quarters of an acre sufficient." It goes on to remind farmers that "the total production of arable farming may be about four times as much as that from the same area of permanent pasture." Hence it is only a step to the moral: "By ploughing up grass, the same number of cows might be kept and a large surplus of grain food for human consumption grown as well." This is a perfectly sound theory, but it is a new doctrine to the great bulk of English farmers, and it is a vain thing to expect that they will change their system after reading a paragraph notice of this kind. For one thing, they should first be made to understand thoroughly what changes in their system would be rendered necessary in order to ensure success. It seems to me the far safer and wiser course to do as the Executive are doing; that is, taking care to preserve the good pastures. But, at the same time, they cannot afford to ignore the experience of men like Mr. Strutt and Mr. Currie, and they should prepare, if convinced of its expediency, to adapt their plans to the maintenance of dairy herds on arable land.

It will thus be seen that the farmers who form the Bedfordshire Executive Committee are fully alive to their responsibilities. They recognise that the duty laid upon their shoulders is that of increasing the food supply, and they are going about their task in a resolute, single-minded manner. Even since writing the major part of this article I have had a letter from the Executive Officer saying that the Committee has now scheduled 7,051 acres of grassland in seventy-five parishes to be broken up. The total number of parishes in the county, as we need scarcely remind our readers, is one hundred and forty. It is very much to the credit of the Committee that so much has been accomplished so early in the year.

There is plenty of ploughing yet to be done in the autumn, but according to the old saying, "Well begun is half done," and a very excellent beginning has been made. In the various other ways in which committees have been called upon to act, the work has been done with efficiency. For example, although Bedfordshire has always been a good potato country and therefore there was very little margin left for expansion in the potato fields of the large growers, a considerable quantity of seed was obtained and distributed among the cottagers, allotment holders and smallholders, with the result that the classes of the population represented by them are in the way of being well supplied with potatoes for the winter time, and if the poor man has plenty of potatoes and other vegetables, he can reduce his bread ration by as much as the town worker.

CORRESPONDENCE.

The Record Shorthorn Sale.

Sir,—I am surprised to see that the recent sale of shorthorns at Wrest Park is spoken of as a world's record. The actual total, so far as I know, may be a record, but the average price compares very poorly with the sale here in 1872. On that occasion the sale summary is as follows:

	£	s.	d.
52 cows and heifers at £237 7s. 7d.	12,343	16	0
9 bulls and bull calves at £346 0s. 8d.	3,114	6	0
	£15,458	2	0

Average per head of 61 head, £253 8s. 2d.

I have a copy of the catalogue issued by Mr. Strafford with the names of the purchasers and the price of each animal printed—no doubt for circulation among the breeders. There is also an inset, "Bates and Booth," showing that at Winterfold 39 head Bates strain averaged £356 18s. 4d., while at a Beeston sale 39 head Booth strain averaged £198 18s. 8d.—J. Donaldson Harward, Winterfold, Kidderminster.

[Mr. Harward was kind enough to show us a copy of the catalogue with the prices, which was printed for the purpose of being sent round, probably to customers of the auctioneer. We consulted the "History of Shorthorn Cattle" before inserting the original paragraph, but Winterfold is not included in the list of sales in the index, and so it was missed.—Ed.]

The M.O.M. Tractor.

Sir,—It is manifest that three million additional acres cannot be brought under cultivation this year unless farmers are provided with the means of doing it. The Government has undertaken to deal with one million acres and is calling on the farming community to deal with the rest. It has been understood that the Government had adopted the Ford tractor and were making arrangements to build this in large numbers, and many farmers have been depending on these machines and waiting to see what the Government is going to do for them in the supply of tractors and implements. We recently tendered for the supply of certain of the material required, and have now been informed officially that the construction, as intended, "is not being proceeded with." We understand that it is the intention now to have these machines produced in America, but, of course, the organisation has to be started *de novo* over there, so that it is certain very few, if any, of these tractors will be available before next spring. Hence it follows that farmers who have land to break up and to cultivate should lose no time in securing what tractors and implements are available for that purpose; and in this connection we may say that the number of such outfits cannot be large, owing to the fact that the American Government has called on American farmers to increase the land under the plough, and the home demand for tractors of all kinds over there is so great that comparatively few of them will be available for service on this side.—The Power Farm Supply Company, Coventry.

The Wheels of Agricultural Tractors.

Sir,—It is interesting to note that the Local Government Board have found it necessary to pass a special order for the period of the war legalising the shape of wheel of the various agricultural tractors that are now being imported into this country.

I have always considered, from the start, that the ordinary Local Government Board regulations in reference to road locomotives were regulations framed in the true interests of both the road users and ratepayer, and therefore, while the relaxation of these regulations at the present time, owing to the importance of getting a maximum number of tractors into use, seems necessary, it is to be hoped that after the war the old regulations will again come into force, with possibly two alterations.

(1) That the weight resting upon a given wheel width might quite well be reduced and made more in favour of the road authorities, without in any way being detrimental to the makers or users of agricultural tractors.

(2) The minimum width of wheel allowed, I think, should be reconsidered, because the framers of the original Act had in mind engines of some 10 tons in weight. It is quite obvious that light agricultural tractors of, say, 1½ to 2½ tons in weight should not be compelled to use the same minimum width of wheel as a 10 or 15 ton engine, but in no case need this minimum width bear even half as much weight as the original Act provided.

Our Universal Tractors are shod with the regulation 3in. strakes on the rear wheel and we have never found them to mark or injure the road in any way. At the same time they will go into the field and do every kind of work that the farmer wants them to do in the way of ploughing, cultivating, threshing, carting and transporting the farm produce by road, gripping attachment, of course, being provided for use in soft or wet fields. During the summer season it is seldom that we put anything whatever on the wheels of the tractor for general farm work.

Since 1902 I have tried every form of grip and tread that I could conceive, and I have found nothing so good as the regulation strakes already permitted by the authorities, but I do think that the Local Government Board might reconsider the question of the minimum width of wheel for these light machines. I especially allude to the band on the front wheel. I think that if a 10 or 15 ton engine may use a band on the front wheel 5in. wide, an engine say one-sixth in weight might use a band 2in. wide. This band is very useful on an agricultural tractor. It never marks the road owing to the light weight upon it, and when in the field it cuts into the soil (until the broader wheel supports the remainder of the weight) and prevents side slipping.

There is no suction from these straked metal wheels as is the case with rubber-tired road lorries, and in roads where they are continually used I have always found them to improve the road instead of injuring it. Their

broad wheels and their light weight are insufficient to crush the metal, and they have the effect of rolling it in.

I do not believe that there is another tractor constructed at present to undertake all-round farm work as well as road haulage as the British made Saunderson tractor will. As a most recent example of its capabilities I would mention that last week we got an urgent call from the Board of Agriculture to send one of our tractor ploughs, together with a tractor plough manufactured by a neighbouring firm, to a test arranged by the Board near Chelmsford, some seventy miles from here. As the railway facilities did not allow of these ploughs reaching Chelmsford in time for the test we loaded both ploughs on a trailing wagon and sent them down by tractor, which journeyed by road under its own power and then went through its test with the plough.

As soon as the test was over and the plough loaded up again, it returned to Bedford, doing the double journey of some 140 miles, and its field trials, comfortably and easily at the rate of four to five miles per hour, with its travelling wheels straked in accordance with the pre-war Local Government Board regulations.—H. P. SAUNDERSON.

MODERN MACHINERY AND FAST HAYMAKING

SIR,—The shortage of labour for haymaking decided me to obtain the services of a capable contractor owning modern machinery to make my hay, and my experience may be of interest. On Wednesday morning of last week twenty-six acres of my grassland were untouched. On the following Tuesday afternoon it had been cut and the hay stacked, notwithstanding heavy rains on Thursday night and the whole of Friday, and has escaped the delay and damage which the deluge of last Tuesday night and the whole of Wednesday and the heavy rains of this week-end would have spelt. Surely this is strong testimony to the value of modern machinery such as was used. The hay is in fine condition despite the complaint of the contractor that he was obliged to work with too few hands. His "combined haymaker" was driven by a boy of fourteen. A light horse that could walk sharply was used (and, by the way, that same horse often *trotted* at his work when in the rake, a very unusual sight in the hay field). Another small boy managed a second light horse employed on the elevator at the stack. Light horses were used in some of the mowers and the whole twenty-six acres were cut in one day by three machines. One man, at least, has had brought home to him the value of up-to-date appliances and of quick moving horses, which, except for the really heavy work, can get through so much more than their more bulky brethren. This leads me to suggest that all farm machinery should be conscripted. It is a thousand pities that implements should remain idle when they might be put to full use in this time of difficulty and labour shortage.

TURNING A WINDROW.

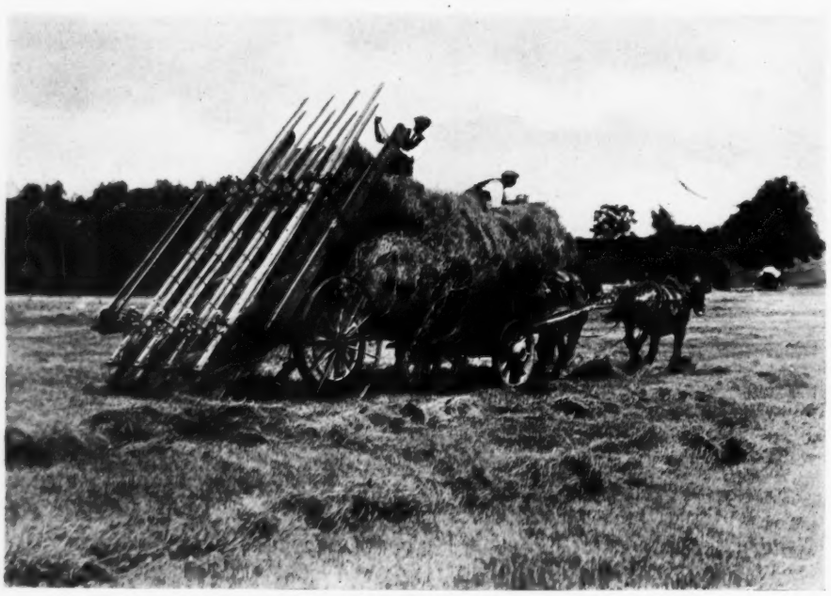
A SMALL BOY AND A MODERN "HAYMAKER."

"Making" went on simultaneously with carrying. The "haymaker" gathers the hay into windrows so lightly compiled that the wind blows through them and dries the hay quickly.

To harvest a crop quickly often means better quality, and certainly releases the men for other work that is crying out for attention. It is now too late to make such arrangements for the hay harvest, but it could be done for the corn crops. Every owner of labour-saving machinery should allow its use by those whose lack of capital, or even want of enterprise, has prevented them from owning similar implements. Men and machinery should be lent together on mutually satisfactory terms, and the borrower should be compelled, if required, to exchange another man with the lender on such days as the machine was at work elsewhere than on its owner's farm. But much of this modern machinery can be used by unskilled labour—women and boys. Every owner of labour-saving implements should be obliged, throughout the season when they are employed, to give regular notices to some local

A HAY SWEEP (FRONT VIEW).

THE SAME MACHINE FROM BEHIND.



A "HAY-LOADER" AT WORK.

authority that his machinery was not required for use by himself. That authority should allot it to neighbourimg farmers by whom applications had been lodged. Messengers, telephones or telegraph office should between them prevent delay and ensure speedy and regular use. There are difficulties, but surely they were made to be overcome, particularly in these times, and I, for one, refuse to believe that farmers, and other owners of labour-saving devices, are so unpatriotic to-day as to prefer that they should lie idle when by proper organisation they could be put to full use not only by small-holders, but by the larger and less enterprising farmer whose bigger crops are, after all, of greater importance to the nation as a whole. I enclose a few photographs which may interest you.—"EPSOM."

IN our correspondent's letter the most interesting passage is that in which he advocates what he calls "the conscription" of hay-making and harvesting machinery. This deserves to be considered as a possible help to the small farmer. Obviously for anyone working on a large scale it is more convenient to own the machinery. He can find work enough to ensure a return on the capital locked up. Even then, if he kept all his operations apart, it might be possible to borrow or lend with advantage. But the very wise custom is to keep all the different processes going simultaneously. He is careful to see that each day's cutting does not exceed the amount he can save expeditiously, his ideal being to have each cut of grass stacked within three days. Thus each morning his workers are engaged tedding and windrowing what is newly cut; later in the day they will spread out the cocks into which that cut on the previous day was collected before nightfall, and carry that which has been in hand two days. Such a man could not wait till his neighbour was finished, nor his neighbour for him. Even with ploughing—a much less hurried branch of farming—it is generally acknowledged that the commandeering system of the Food Ministry did not turn out a brilliant success; Englishmen do not like it.

There are other methods which can be used; in point of fact, are employed. For example, take the excellent one followed with such good results by our correspondent. He hired a contractor to make the hay at so much an acre. It is worth noting that the latter, whose livelihood comes from the efficient and expeditious performance of the work, finds it to his advantage to obtain the latest and most perfect machinery. Nobody who wishes to make all that is possible out of hay can afford to do otherwise. In these times keeping a stock of machinery and either taking work to do on contract,

or hiring out his equipment, is a very remunerative business. At all events, the practice is growing, and if a feather will show how the wind blows, it may be permissible to infer that the game is considered better than formerly, since the Agricultural War Committees have had to haul up more than one farmer contractor for neglecting to cultivate his own fields while attending to the letting out of his engines.

Another much recommended course for small holders is that they should make an experiment in co-operative ownership, a trial for which the colony system offers great opportunities. There are various methods of carrying this out, but they suffer from the same drawback, viz., that it too often happens that several men want to use the same implements on the same day. Any automatic arrangement fails to overcome this. Suppose the order of using to be determined by lot. Each then gets his plough or other implement on a given day. It may rain on that day or the weather be otherwise unsuitable; it may rain every day till the period runs out, whereupon the plough must be passed on and no work done. Yet an essential to success in agriculture lies in taking advantage of every favourable opportunity. A chance missed may mean an enormous difference in the return.

The truth seems to be, then, that the small holder is safest who owns the machinery essential to cultivation. But in regard to the more expensive machinery it is different. For example, it would not pay him to own a threshing machine entirely for his own use, but here the operation need not be performed in any particular weather. The most satisfactory results are obtained when it is hired out. The little French farmers on the Marne have found that out by practical experience. After the Germans were driven back, they were enabled to return to the land, where they felt the want of more new reaping and threshing machines. It had been the custom for one man to own these and to let them out. Communal ownership resolves itself into practically the same system. Under it, too, the machine was hired, though the fee was arranged so as just to meet expenses with a fair allowance for depreciation and ultimate replacement.

THE HORSE-DRAWN HARPOON-ELEVATOR UNLOADING A WAGON.

DUMPED BY THE SWEEP AND RAISED TO THE STACK.

Note: Only four men and two boys employed on this large rick.

ENSILAGE WITHOUT ANY APPARATUS

AMONG the many experiments which have been carried out at the farm at Nunthorpe Court, within the City of York, during the last twenty-nine years, at a cost of many hundreds of pounds, is one of such boon to farmers that it should be generally known, so successful has it been. Last winter, after the middle of December the whole herd of milking cows, fattening stock and calves were fed entirely upon ensilage and hay, without any turnips, pea-meal or other foods. Moreover, the cows not only kept up their full flow of milk, but it was even richer than when they were fed upon turnips and pea-meal until the time when the ensilage was ready.

One of the great features in ensilage is that it is better made in wet weather, so that if a wet haytime occurs first-rate ensilage can be made, instead of allowing grass to spoil; only it must be remembered that grass which has become half hay cannot be made into ensilage without a very large admixture of fresh grass. The ensilage last autumn was made out of fog (or aftermath), one field having been put by for that purpose; but though the grass here is now of high quality, having been brought to that pitch by long years of heavy outlay in manures, both chemical and farmyard, very fair ensilage can be made out of rough grass, such as grows under trees and in orchards, along hedgerows, and the rank stuff which grows around the droppings of animals. In these days of shortage of labour a system which enables a farmer to be largely independent of root crops must be quite invaluable.

The method of making the ensilage is very simple. The outline of the stack is first marked out on the ground, and outside the line the surface of a ditch is cut, 3ft. wide, the sods being carefully pared off. This is all the preparation needed. A circular stack is best, as there is less waste, for there are always a few inches from the sides and top which are not palatable to the stock. Twenty feet in diameter is the smallest stack that is practically useful.

The grass having been cut when wet—and no more should be cut at a time than required for that day's work—is stacked in the ordinary way on the plot which has been marked out, and on the first day it may be piled up about 4ft. or 5ft. high, no *more* and no *less*. It is better to trample it down in the process of stacking, for the more the air is excluded the better it will be. Each day, if convenient, 3ft. or 4ft. of grass must be added, but no more, and only three or four days should ever be allowed to pass by without addition being made, for it is by the weight of the additional grass that the air is pressed out, and the mass therefore does not fire, which result is also helped through the grass being wet. If the weather should become so dry that the fresh grass arrives at the stack without moisture, this must be added by sprinkling water freely over each layer as it is completed.

The stack keeps falling fast, and it is surprising how it diminishes in size as the weight increases. When the stack is finished it should be covered with earth dug out from the drain at its foot, and there should not be less than 2ft. of earth over the top, both to provide sufficient weight and to act as a roof. It is really only the top of the stack which then requires any weight, as the weight of the grass itself is quite sufficient 2ft. down. As the wind and rain will wash away the earthen roof if left exposed, cover it with any rubbish available—mouldy straw or hay, or anything handy which has some length. To stop this covering from being blown away, throw some boughs or anything heavy to keep it down; in my case I have been using the sides of an old cistern, which had been corroded by the action of years.

To prevent any possible contamination of the milk from the odour of the silage, which, however, is not disagreeable, rather resembling the scent of Cavendish tobacco, the ensilage is not taken into the byre, but thrown in small lumps on the ground about 50yds. away, and the herd is let out about 10 a.m. to have a drink and devour the silage. This they do greedily, and, as a rough guide, consume about 20lb. per head daily. The cattle are again let out about three o'clock for another drink, and if any ensilage has been left over from the morning they soon find it out and clear it up.

After the soil is once placed on the top, with the further covering to prevent it being washed away by the weather, no attention is needed, as the whole mass sinks automatically with the consolidating of the stack. Moreover, there is far less waste than with any form of pit or other apparatus, for the weight is always constant and there is nothing to become slack.

The ensilage is fit for use as soon as it is cool, as it keeps well, and frost has no effect upon it; it is well to defer its use till about Christmas, using the roots first if such are available. When needed, after the heavy material used for weighting has been removed, the soil is cut straight through and thrown into the ditch to fill it up again for the following season, and then the ensilage is cut down the stack as with ordinary hay. Each day's allowance is cut fresh as wanted.

Twenty feet in diameter is about the smallest round stack which is practically useful, and to give an idea as to what is needed, seven acres of fog will only make a very small stack in height of such dimension, but there will be a lot of feeding in it, for it is very solid. The grass must have plenty of sap in it and not be in the least ripe with the stalks developing woody fibre, so that ensilage should be made in early haytime while the grasses are in flower, or else from fog in the autumn.

It does not matter about the depth of the ditch, its main object being to provide sufficient soil to act both as the weight and the roof.. It is well to dig the ditch in the first instance a spit deep before the stack is begun, leaving a well defined "island" on which to build the stack, or the latter will never be kept within proper dimensions.

The stack can be carried up to any height, depending only upon the amount of grass available; but it should be remembered that the sides should be kept perfectly upright to the last, like building the wall of a house, and not sloped off to a peak as with an ordinary round stack. The labourer does not always readily grasp this point, for he has it fixed in his mind that a slope is required to throw off the rain. On the contrary, it is distinctly prejudicial to slope the top, for then there is so much less area available on which to spread the soil, which is the real roof in this case. It should also be borne in mind that no more soil is needed for the roof, whether the stack is 10ft. or only 5ft. high; the space to be covered with soil is the same in either case. The height of the stack is limited by the distance the labourer can conveniently pitch up the earth to form the roof—practically 9ft. to 10ft.

R. F. MEYSEY-THOMPSON.

A "MINOR HORROR" IN MESOPOTAMIA

BY THE MASTER OF CHRIST'S.

ONE of the worst "minor horrors of war" is the Sand Fly which rejoices—if it does rejoice—in the scientific name of Phlebotomus papatasii. There are, however, other species which one feels sure would rejoice, if they only knew it, in the scientific names of Phlebotomus perniciosus, P. minutus and P. nigerrimus. These minute flies extend all over the Mediterranean area and into Egypt, Mesopotamia, India, South America and, very possibly, throughout the warmer countries of the world. Our knowledge of the habits and breeding places of the Sand Fly are largely due to Professor R. Newstead of Liverpool who, some seven years ago, spent a couple of months in Malta investigating its life history. Nobody but an extremely trained and acute entomologist could have carried out these investigations, for not only are the grown-up insects of minute size, but so are the larvæ and also the pupæ, and the colour of the latter being like that of their surroundings adds to the difficulty of detecting them.

To take in order the four stages through which the insect passes. The Ova (Fig. 1) are elongated eggs with little square markings all over them rather like a tartan. They vary somewhat in size in the different species —0.15 mm. to 0.5 mm. in length and are laid singly. In warm weather they hatch out in four to six days, but their hatching may be delayed over a fortnight should the weather turn cool.

The detection of the ova is a matter of extreme difficulty. They are laid as a rule in dark substances, and they are absolutely invisible without the aid of a microscope, and when bred in captivity they can only be detected when they are deposited on light coloured or transparent surfaces such as white paper or glass. Apparently in nature they are deposited between crevices in loose rocks and crevices in caves, stone walls and such like situations. They prefer a comparatively moist atmosphere, the presence of a certain amount of organic matter and the absence of light.

The larvæ (Fig. 2) are 2-5mm. in length with dark and eyeless heads, but with well developed mouth parts. Following on this head comes a cylindrical body of twelve segments with typical hairs which are shown in Fig. 2. Perhaps the most characteristic feature of the larvæ is the two long hairs which project from the hinder end, each as long, or nearly as long, as the whole body.

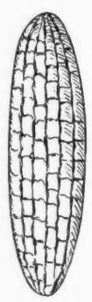


FIG. 1. *Egg, much enlarged to show reticulated surface*

In warm weather the larva passes into the pupa stage in a couple of days. Should the cold weather supervene a fortnight may pass before it turns into this pupa or chrysalis stage.

The pupa (Fig. 3) does not succeed in shuffling off the larval skin completely and retains the last two or three segments of its body in a kind of ruffled, brownish shroud which surrounds its last three segments, and the larval posterior hairs persist. The duration of this pupal existence again varies with the temperature from eight or nine to twenty days. Thus the whole development from egg-laying to the issue of the imago may vary from one to two months.

As usual with biting flies, it is the female alone which does the biting, the male mouth parts being too feeble to penetrate the human skin. As Kipling has told us more than once, "The female of the species is more deadly than the male."

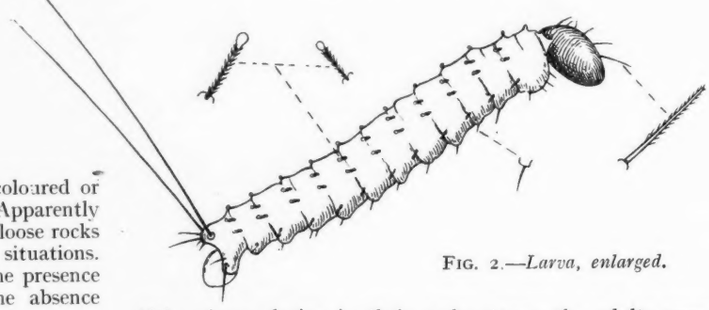


FIG. 2.—*Larva, enlarged.*

Although so elusive in their early stages, the adults were found by Professor Newstead throughout Malta in favourable situations, but only in certain localities. They even outnumber the mosquito, and they are, as Professor Newstead

reminds us, the most vicious of all blood-sucking arthropods. Like the cockroach and the bed-bug the Sand Fly is highly domesticated and, unfortunately for humanity, they occur in their limited areas wherever human beings live. Like other blood-sucking insects they have their likes and dislikes. Fortunately for the Professor he fell under the latter category.

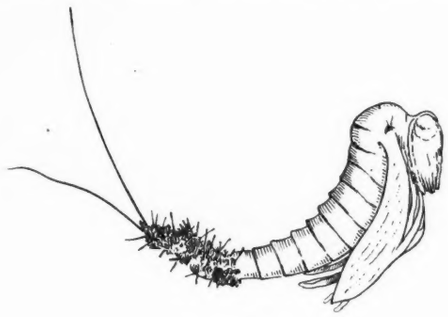


FIG. 3.—*Pupa.*

On the other hand, the great majority of folks, especially newcomers in their area, and chiefly children, suffer "the tortures of the damned." The bite raises an irritating stinging papule which the sufferers describe as feeling as

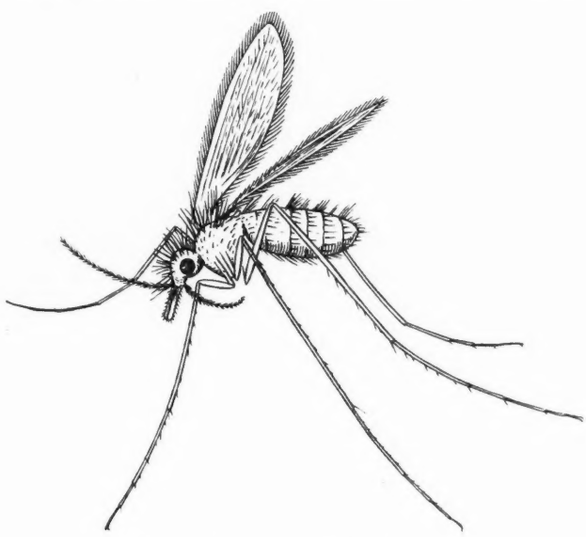


FIG. 4.—*Female, enlarged; from life.*

though they had been stabbed with a red-hot needle—though one doubts if any one of the sufferers had ever been stabbed with a red-hot needle.

Like the Anopheles, the flies are nocturnal in their habit, hiding during the day behind pictures and in dark corners of the room, in hollow trees, behind books, shutters and such like dark places. They are so minute that, if one can imagine a fly laughing, they simply laugh at the meshes of an ordinary mosquito curtain. Some rooms are more infested than others. The first floor bedrooms on the sheltered side of a house are particularly favoured by the Sand Flies. They do not seem to soar as high, at any rate as a rule, as the second floor. They are also very peculiarly local in their distribution. Early in the morning both sexes are found within the mosquito nets of a badly placed bed. The male soon escapes, but the female is so gorged that she is sluggish and so distended with blood that her escape through the net is impeded. This blood she will half digest in sixteen hours and wholly within thirty-six to forty hours.

Like so many other insects the Phlebotomus papatasii lives but a short time in captivity and, unless fed upon human blood, for but a brief period. Still it will subsist for a short time on wet blotting paper or fresh leaves, and it is by no means averse to taking blood from other animals such as cattle, dogs, rabbits and frogs.

As the fly has been the cause of such intense discomfort to our armies in the Near East and Mesopotamia, it is worth while to give some of the methods which are now being used to control the cause. Major Crawford, R.A.M.C., has prepared a repellent which is said to be effective. It is composed as follows: Ol. anisi, 3grs.; Ol. Eucalypti, 3grs.; Ol. Terebenth, 3grs.; and Unq. acid borac.

Writing in *The Times*, Major Hewlett, who has had first hand experience of these biting insects, suggests the following: Oil of cassia, one part; brown oil of camphor, two parts; vaseline or salad oil or lanoline, four to five parts; mix well and smear the skin in small quantities. Other experienced correspondents suggest oil of citronella (more easily procured at Karachi or Bombay than in England); essential oil of lavender and methylated spirits in equal parts; oil of pennyroyal; equal parts of oil of eucalyptus, oil of anise, and oil of turpentine.

Professor Newstead found that spraying with formaline or formaldehyde in the dark portions of the sleeping room with a 1 per cent. solution every day during the season in which the flies were prevalent (for they die down during the winter) was effective. Mosquito curtains should be sprayed regularly every day during their prevalence as the sun goes down. As far as possible as much daylight should be admitted to the infested rooms and the beds placed in the best lit portions of the chamber. Furniture should be kept as simple as possible and the drapery reduced to its lowest limits. It may be that strong currents of air set in action by an electric fan or punkah would drive these insects out. But this is not yet proven.

Various traps have been suggested which should be stuck up in high, dark corners of the bedroom, such as biscuit boxes lined with dark coloured fabrics which would attract the insects, which could be killed with ammonia vapour once a day. We know so little of the life-history of the flies and the places where they breed that it does not at present seem a hopeful proposition to try and destroy them at their earlier stages, though as knowledge increases this may become more possible.

The Sand Fly is guilty of far graver injuries to mankind than that caused by the mere bite, irritating and painful as it is. It is the conveyer or vector of Pappataci fever or, as the Italians call it, Febbre dei tre giorni. The organism which causes this fever is unknown. It is ultra-microscopic and capable of passing through a Pasteur-Chamberland filter. It is almost certainly a protozoon and has a definite life-history, part of which is passed through in the insect and part in the man. For instance, the Sand Fly is not infective until a week after feeding on a fever patient, and it is quite probable, as is the case with so many diseases conveyed by ticks, the organism is passed on by the imago or adult to the young brood of flies through the egg, larva and pupa.

The fever was known as long ago as 1804 when Pym described a fever of three days' duration occurring in the Mediterranean, and there were a number of cases of this disease recorded among the troops going and returning from the Crimea in 1855 and 1856. The fever has also been recorded as far east as Chitral, and the fly in Hong Kong and as far west as South America, and probably it encircles the globe.

As one is not writing for a medical paper one may skip the various symptoms; but it is a happy conclusion to this short article to state that the prognosis is good, as, unless complications ensue, nobody as yet has been known to die of Pappataci fever.

FIG. 5.—*Imagos, natural size.*

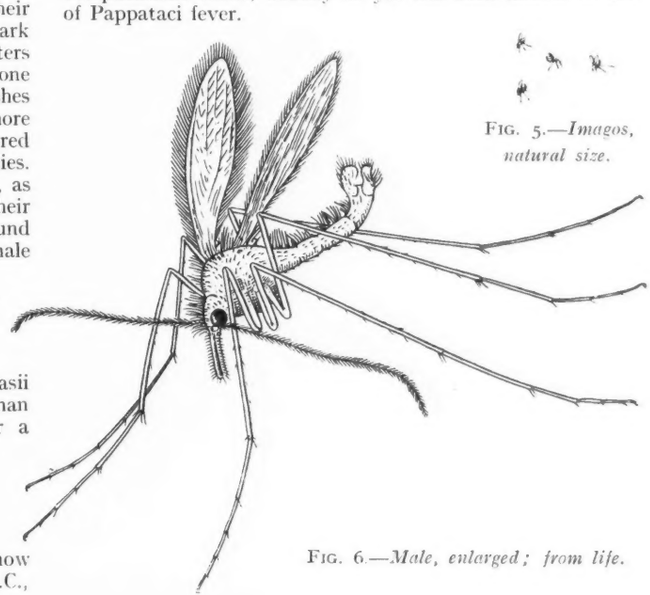


FIG. 6.—*Male, enlarged; from life.*

COVNTRY HOMES GARDENS OLD & NEW

DOWNTON CASTLE, HEREFORDSHIRE,

THE SEAT OF

MR. C. A. ROUSE-BOUGHTON-KNIGHT.

WHILE Abraham Darby was developing the use of coal in his Coalbrookdale works, and was living at Madeley Court, as described last week, the estate of Castle Green in Madeley parish was the property of the Knight family, of whom Richard Knight was a local ironmaster before Abraham Darby came to Shropshire. During a long and enterprising career Richard Knight made a very large fortune, and this, curiously enough, he did not so much by seeking new methods, like the Darbys, as by resolutely continuing on old lines. He needed for his purpose the finest iron, and that was only obtainable in his time by the use of charcoal in smelting. It was his successful search for an area where sufficient wood still existed for this purpose that made his grandson owner of the Downton Estate, and the great picturesqueness of this section of the Teme Valley caused him, as a leading architectural and archæological Mæcenas of his age, to build the interesting house still owned and occupied by his descendants.

When, under Henry VII, Ludlow became the seat of the Government of Wales, the extensive royal forests in its neighbourhood were the hunting ground of the Lords President. Bringewood was the most important of these forest areas and is described in James I's time as "stately grounds, and do breed a great and large deer." It ran westward from near the castle up the course of the Teme and provided the President and his Council not only with sport but with building timber and wood fuel. By Charles I it was granted to Lord Lindsay, from whose son it passed by purchase soon after the Restoration to Lord Craven.

At the age of forty Richard Knight was already an important ironmaster in Shropshire, but was hampered by lack of wood. Bringewood was a vast area of oaks fit for charcoal making, and so he took a lease from Lord Craven of a small section of it lying on the south bank of the Teme and thereon he erected a forge and all necessary accessories, including a small house for his own occasional occupation, and there he eventually died in 1745 at the age of eighty-seven. Before that he had changed his lease of a few acres into the ownership of a large part of the Bringewood estate. He then possessed other forges in Shropshire, Staffordshire and Worcestershire, and had acquired other estates so that all his four sons became landowners. To his second son, Thomas, who entered the Church and was Rector of Bewdley, came the Herefordshire properties which included Wormesley as well as Bringewood, and at Wormesley Grange he died in 1764, his elder

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son, Payne, being then a boy of fourteen, while Andrew was only five years old. We hear that their education was "much neglected, particularly that of the elder, who never was at a Public School or at either of the Universities." Yet he long held a distinguished position in the world both in literature and art. His knowledge of Greek led to his publishing an edition of the Iliad and Odyssey with the object of restoring the text of Homer to its original state; but its most practical outcome was the formation of the unrivalled collection of ancient bronzes and coins which he made and bequeathed to the British Museum. His views, much controverted but influential, on matters of art and architecture were given to the public in an "Inquiry into the Principles of Taste" and in his poem called "Landscape." But they took material shape in the building of Downton Castle, and the choice and "improvement" of the site.

It would appear that his "neglected education" arose from delicacy as a youth, and that the same cause took him as a lad of seventeen to Italy, where he spent several years and where his classical bent and artistic leanings were developed. Here, too, he began collecting, and had further opportunities later on when he was again at Naples and saw much of Sir William Hamilton, who was of importance not only to his country as our representative at that Court and to Nelson as the husband of Lady Hamilton, but likewise to many of his collecting friends as adviser in the purchase of such antiques and works of art as came into the market or were privately obtainable. As a bachelor whose interests lay in the domain of art and literature, Payne Knight was essentially a Londoner when he lived in the still fairly fashionable square of Soho. There, as a fellow of the Antiquaries, the Dilettanti and other learned societies he met the men and gained the knowledge that most agreeably and profitably occupied his time and attention. He had no desire to immure himself amid the woodlands of the Welsh Marches. But as a student of the "picturesque" school then in vogue and of which Gilpin's "tours" was one of the emanations, he was drawn to the creation of a family seat that embodied his views.

Above Bringewood Forge the north bank of the river is low and there is broad meadowland before a moderate slope topped by

"COUNTRY LIFE."

THE CASTLE AND BRINGEWOOD CHASE.

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level ground is reached. This platform, 400ft. above sea level, looks south upon the whole of the lofty, broken, and well timbered expanse of Bringewood chase of which the highest point reaches an altitude of over 1,100ft. To the west the valley narrows to a rocky limestone gorge with noble trees thick set upon its steep sides and through this cool, leafy hollow the Teme flows, "plunging over rocks, seething in dark pools, spreading out again into wide but fishable shallows, broken by long ledges into tempting eddies, or again gliding swift and smooth under mossy cliffs" as Mr. A. G. Bradley found it on a hot dusty, August afternoon, when to his surprise and delight, "seven brace of nice, even trout" fell victims to his fly. Such was the site that tempted Payne Knight to begin building operations on the platform before the eighteenth century closed. The "Gothic taste" was already the vogue and seemed exactly to fit the character and history of the locality. A "castle" surely must the new home be in outward appearance. But Knight's classic training and proclivities dictated interior treatment based on the manner of Robert Adam. As a result Knight and his admirers claimed that he had solved the problem of combining a Gothic exterior with a classic interior. With our present views of "honesty in architecture" we should deny that such a problem can arise, let alone be solved. To find a domed temple enclosed in a mediæval keep is rather a shock to those who expect the outside of a building to act as the preface to the inside. Moreover, there is a prominent feature which links the two. The Gothic tracery of the majority of the windows disturbs the completeness of the room schemes, while the big sash window, which alone pierces the wall of the temple-like dining-room, is uncongenial to the aspect of the "keep" tower. Yet there is much that is admirable. We may not wish for a whole population of Payne Knights in successive generations all busy with stone and lime, but we are glad that there was one, and must rank his house among the assets of our architectural evolution. The Gothic is far beyond the usual produce of his time. It is not Walpolean, there are no confectionary battlements or plaster turretlings. The conception is big and has been sustained in execution. Fine material has been used with ampleness to attain a stately grouping with reasonably massive features. Of course, it totally fails to be convincingly Edwardian, for it is, after all, an eighteenth century house. But it shows an effort to reach the mediæval spirit rare among Knight's contemporaries. Now we know much more about it.

It is just because we have reached an appreciation of the mediæval spirit that we hesitate to build mediævally, for we recognise that the mediæval habitation was the petrifaction of mediæval ideas, habits and modes of life; and as we are not prepared to follow these, we find we cannot plan and build as they did, and wreck their style by half assimilations that are mere disguises. That is why, good and interesting as it is, the exterior of Downton Castle cannot claim to be more than the best and ablest piece of

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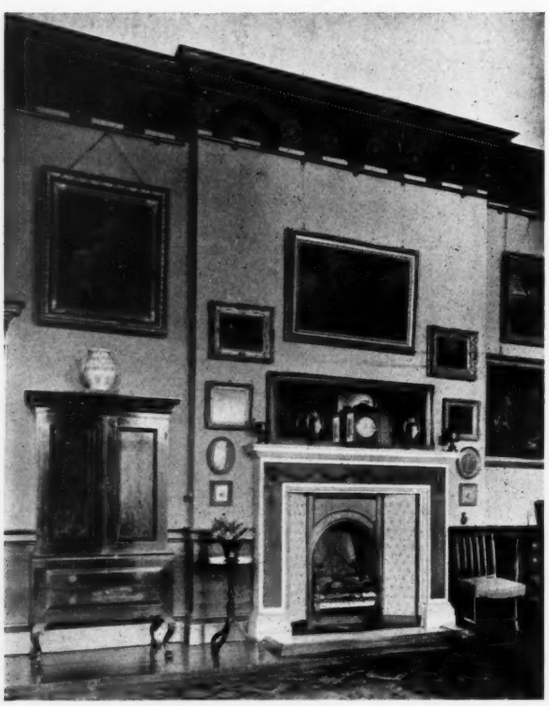

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architectural playacting of its time, while reality—that is the materialising of the real needs and habits of the age when it was built—is only to be found inside. The most important room has already been alluded to. It occupies the whole interior of the central tower of the south front, and is a vast circular apartment, its dome terminating in a lantern. There are four recesses, of which the columns support an elaborate entablature, above which rises the panelled plasterwork of the dome. The furniture and fittings were specially designed, including the great round carpet which is, as it were, a reflection of the dome. Lying west of it is the library with a mantelpiece of white marble framing porphyry panels on which are *appliqué* most delicately wrought ormolu masks, garlands and swags. Evidently Payne Knight made considerable purchases of porphyry in Italy, for in the drawing-room, which lies beyond the library, we find a columned doorway having porphyry shafts 6ft. high, the plinths, capitals and entablature being of white marble. At the other end of the room a window is framed in similar fashion, the entablature being curved to take the circular internal shape of the south-west octagon tower in which the end of the drawing-room is accommodated. The illustration of the doorway shows the door itself to be of mahogany with enriched panels such as were usual in all great houses of the Adam period. Such doors are everywhere at Downton Castle, including even the bedrooms. North of the drawing-room along the west front is the boudoir with a very finely sculptured Carara marble mantelpiece on whose shelf are four notable *sanguine* Oriental vases. The room is fitted with specially designed mahogany bookcases, of which a small one appears in the illustration, whereas the whole north side and the return are occupied by a continuous one containing many of the fine folios which Payne Knight collected. He himself is brought before us by Lawrence's living canvas that hangs in the hall. Classic architectural plans rest on his knee, and from them he glances up with an expression of intellectual strength and vivid keenness. Below the

"THE HOLY FAMILY."
(*Rembrandt.*)

"THE ADORATION OF THE SHEPHERDS."
(*Andrea Mantegna.*)

"THE REST AFTER THE FLIGHT TO EGYPT."
(*Rembrandt.*)

portrait hangs the most famous of his large collection of old masters, Rembrandt's "Cradle" picture, bought at the Orleans Gallery sale for £1,000 when the Lansdowne "Mill" only fetched half that sum. The Downton Castle canvas represents a room lit by a single candle at which the Virgin is reading while St. Anne rocks the cradle and St. Joseph draws wine from a cask in an obscure corner. This is one of several Rembrandts at Downton Castle, where we also find other gems of the Italian and Dutch Schools.

Payne Knight was a bachelor and a student, and to live in the country and run a big place was far from his wish.

"ST. BARTHOLOMEW." (?)
(*Rembrandt.*)

He therefore soon handed over the Castle to his married brother, retaining a tower fitted as a library, and dwelling, when in Herefordshire, in a little house near by, so that in the will he made in 1814 he is described as of Soho Square and Stonebrook Cottage. Ten years later he died, and was duly succeeded by his brother, Andrew Knight, a man of equal brain power, who had specialised in the scientific aspects of plant growth, was the friend of Sir Humphry Davy and of Sir Joseph Banks, and a founder and for twenty-seven years president of the Horticultural Society. Of the numerous papers read by him before that and the Royal Society a selection was published after his death. They range over a wide field, from the scientific aspects of the motion of the sap of trees to the practical questions of "The Management of the Onion" and "The Construction of Peach Houses." As a Herefordshire landowner he gave special attention to the apple, raising new varieties, experimenting on culture and publishing "Pomona Herefordiensis." As his brother had handed Downton Castle over to him in 1809 he had occupied it nearly thirty years before he died in 1838. The last years of his life had been darkened by domestic sorrow and uncertainty as to the future devolution of the property. At the age of thirty-one his only son was accidentally shot, and as old Richard Knight had settled all his properties upon heirs male, it was a question how far Andrew Knight had powers to make a will in favour of his daughters. The matter, however, was eventually settled essentially in their favour and the Downton Castle estates passed to Charlotte, the third daughter, and wife to Sir William Boughton. Of him and his family we shall hear more next week, when illustrations will be given of Downton Hall, his Shropshire seat, now held by one of his grandsons as Downton Castle is by another. When he died in 1856 his elder son, Sir Charles, inherited the paternal estates, while the mother's went to Andrew, the younger, who thereupon became Mr. Boughton-Knight. For over fifty years he enjoyed possession of this picturesque and delightful domain where his son now rules as guardian of the fine traditions and choice possessions created or acquired by the eighteenth century scholar and *virtuoso*.

H. AVRAY TIPPING.

IN THE GARDEN

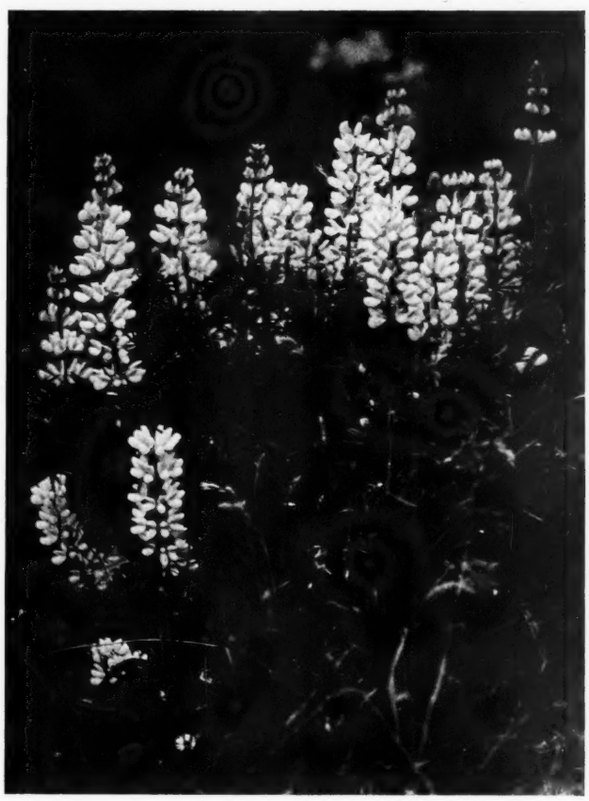
SUGARLESS JAM.

THERE are heavy crops of Gooseberries, Raspberries, Red and White Currants and Black Currants in many gardens at the present time. If this fruit is not bottled it should be made into jam, and if there is no sugar for jam making it should be made into sugarless jam. There is no reason why fruit of any description should be wasted. The process of making jam without sugar is just the same as making it with sugar. Any kind of bottle or jar may be used. The fruit is reduced to a pulp in a preserving pan in the usual way by boiling, the only difference being that it is boiled rather more to bring it to a thicker consistency. The time for boiling depends, of course, upon the amount of water contained in the fruit—usually from three-quarters of an hour to one and a-quarter hours is sufficient. It should be well stirred and brought to a fairly stiff consistency. Soft fruits, such as those enumerated, do not require any breaking up, as with gentle heat they very soon settle down in their own juice. It should be noted that the jam is not boiling when the first few bubbles appear on the surface; it must be popping and bubbling all over, and unless it is well boiled its keeping properties are much impaired. Before commencing all the necessary materials should be in readiness. The jars should be clean and dry; the parchment paper should be cut ready for covering and strings ready for tying down. All this would be necessary for jam making in the ordinary way, but in preparing sugarless jam we also require a small iron spoon and a little flowers of sulphur. The sulphur is held in the spoon over a flame—a lighted candle will do quite well—until the sulphur ignites, then each jam jar, after being warmed, is filled with sulphur fumes and left inverted on the table. One teaspoonful of sulphur is sufficient to fill four or five jars with fumes. The sulphur fumes will destroy all germs within the bottle; in other words, it is sterilised. When the preserve is placed inside the jar the fumes are, of course, driven out. All that is then necessary is to float the fumes on the top of the jam from another jar and then cover up immediately with the parchment paper. It will be observed that the sulphur has the effect of discolouring the jam on the top and around the edges of the jar, but this soon passes off and the jam is none the worse for the addition of the sulphur fumes. Prepared in this way the jam will keep good for years. Even Rhubarb jam, as Mr. Vincent Banks explained at a recent demonstration before the Royal Horticultural Society, will keep quite well if prepared in this manner and, added Mr. Banks, "I know of no other way (except, of course, the vacuum bottle process) by which fruit pulp can be preserved in ordinary jars without sugar." This is a very economical way of preserving fruits for many reasons. In the first place, it is possible to pack a much larger quantity of material into the bottles than in the case of fruit bottling, as no water is used and the fruit shrinks to about one-third of its original bulk. The fruit pulp may at any time be converted into jam by boiling with the addition of sugar when it is available. With only half the quantity of

sugar a sufficiently sweetened jam may be obtained. The fruit pulp also comes in most useful for making jellies or fruit cheese at any time of the year. Jam prepared with half the normal quantity of sugar will keep quite satisfactorily by the aid of the sulphur process.

BEAUTIFUL LUPINES.

It is not easy to explain why Lupines are not more commonly grown as fodder plants in this country. On the Continent it is quite a common crop in many parts. A field of the blue flowering Lupinus angustifolius makes an extremely pretty feature of the landscape in June. No doubt the Lupine, like other plants of the same Natural Order, would leave the soil richer in nitrates than it found it, although its name is an apparent contradiction, for it is said to be derived from the Latin *lupus*, a wolf, because a crop of Lupines was supposed to destroy the fertility of the soil. All the Lupines are showy plants with conspicuous flowers, either blue, white, yellow, pink, or a union of these bright colours. All are of easy cultivation in any garden soil, but it is said that they will not flourish in soils heavily charged with chalk or lime. There are a great many species, all of them beautiful, but for garden purposes they are surpassed by the numerous and beautiful hybrids. The elegant Lupinus nootkatensis, native of the region around the Nootka Sound, with deep blue flowers mixed or



YELLOW LUPINES.

streaked with purple, white, or yellow, is now brilliant with flowers in many gardens. L. mutabilis, from South America, is another handsome species. The flowers are at first white, and then change to blue with a large yellow mark in the centre of the hood; the wings and the keels of the flowers are white. H. C.

CORRESPONDENCE.

LEAF-MINING MAGGOT IN CELERY AND PARSNIP LEAVES.

SIR,—I should be very much obliged if you could inform me what could be done to destroy the maggot that attacks parsnip and celery leaves. I have tried syringing with a strong solution of insecticide, but the maggot, being *inside* the leaf, does not appear to be touched by this and still flourishes.—SOPHIA A. DULEEP SINGH.

[It is no uncommon thing for the celery fly to attack the leaves of parsnips as well as celery, while it is also known to attack beetroot. This year this pest is doing far more damage than usual. No amount of syringing is likely to reach the maggots, which are within the tissues of the leaves and may be clearly seen by holding the leaves to the light. When the plants are small the leaf-mining maggot within the brown patches on the leaves should be crushed between the thumb and forefinger, but with larger plants the damaged portions of the leaves should be cut off and immediately burnt. It should be borne in mind that the maggots pupate in the leaves and hatch out into small flies in a few days, several broods being produced in a season. To prevent further egg laying by the fly, the leaves should be sprayed with quassia extract or paraffin emulsion at intervals of a few days, or sprinkle soot on the foliage when damp, while a sprinkling of sulphate of ammonia will encourage the plants to make rapid growth, at the same time discouraging the visits of the celery fly.—ED.]

THE HAMMER THAT MAKES NO NOISE

IT was an American seaman who gave to the world the greatest and only complete definition in any language of the work of a navy in war time. When Admiral Mahan penned the words "the silent pressure of sea-power" he described exactly the work of the preponderant navy in every one of the wars of the world's history, and his words apply with double force to the sea war of to-day, because the silence of the belligerent navies is in such marked contrast to the welter of news about everything to which we had become accustomed before August, 1914, when Jellicoe and the Grand Fleet vanished into the Northern mists figuratively as well as literally.

The pressure of sea power is silent because it does not depend mainly on the outcome of battles. The clash of armed forces, in fact, is merely an incident in naval warfare. The only maritime wars in which fleets have been constantly at each others' throats were the three short, fierce struggles between England and the Netherlands in the seventeenth century. In all other wars the great battles took place at long intervals. Thus, throughout the first half of the eighteenth century, although Britain was frequently at war, there were only five big naval battles, one to each decade. In the second half of the century, which includes the opening of the great Napoleonic wars as well as the Seven Years War and the American War, in which France intervened, there were only fourteen decisive fleet actions, or about one every three years.

This is a fact which is often lost sight of by those watching the present great war. Our history books tell us about the great battles; they do not tell us about the months of weary cruising from point to point, with only an occasional duel between outlying ships to vary the monotony. They tell us about Trafalgar, but they do not tell us of the twenty-two months that Nelson spent before Toulon without ever setting foot out of his ship, while he was waiting for the chance to get at his antagonist. It was that silent, seemingly purposeless waiting, however, that was the real essence of sea power. Trafalgar was but the outward and audible sign.

Those, then, who ask what the British Navy has done in this war have not fully understood the meaning of what has happened. Because the battleships have not limped home battered and bruised twice a week; because not a single British dreadnought of the Battle Squadrons has been blown sky-high in action; because, in a word, there has not been something dramatic to discuss once a month many people have jumped to the conclusion that nothing has been done. They are wrong. The evidence of it is in every neutral port, and was particularly noticeable in every American port for months before the United States declared war. Why were there twenty-seven German liners laid up at New York, six at Boston, three at Baltimore, three at San Francisco, ten at Honolulu and twenty-three in ports of the Phillipine Islands ready to be seized without a struggle when America came in? There was no pressure in their boilers. All the pressure was outside them, the unseen pressure for which there is no gauge invented—the pressure of the 4,000 vessels of the British Navy.

That was a bloodless victory, but it is none the less valuable, none the less effective, none the less complete. The tremendous loss of 6,000 British lives at Jutland brought no additional advantage to Great Britain. All that she held at sea before she still held after the battle. The dramatic element was superfluous.

The value of Jutland from Britain's point of view was simply this: It made clear what had hitherto been but half realised by the untutored in sea affairs, that the ultimate word in all sea war rests with the big ships, that they are the foundation on which alone a Navy can safely be built, that all the 4,000 other ships in the Navy are but the handmaidens and dependents of the forty or fifty "capital ships" which form the Battle Fleet. Without them a Navy of even 8,000 small ships would be scattered like chaff before the wind. With them the tremendous strength of sea power can be exerted to any degree that the diplomatists think fit.

For it must be remembered that the command of the seas is something that does not affect only belligerents. It touches very nearly the national honour and the national purse of every neutral. One of the most remarkable achievements of the British Navy in this war is to be found in the fact that it has held up and searched 25,874 ships of all nations; and yet Great Britain is still on friendly terms with every one of the maritime Powers of the world, except

Germany and Austria. There have been complaints; there have been protests; but they have been protests on points of law and not on points of honour.

The British Navy has evolved during the war the most comprehensive system of commercial intelligence ever achieved. The officer of the examining cruiser who goes on board the neutral ship from Callao or Shanghai somewhere on the high seas round the north of Scotland or in the Channel has a full and detailed report of the ship's cargo in his possession as often as not before he boards her. All that information has been gathered for him by Admiralty Committees in London, known as the War Trade Intelligence Department, the Contraband Committee and the Enemy Exports Committee. Whereas in former times a vessel suspected of carrying contraband had to go through the long and tiresome and expensive business of being tried in the Prize Court, she is now subjected only to the expeditious consideration of her case by one of the committees, and the whole question can be settled in twenty-four hours, if she is innocent. If any part of her cargo is guilty the only delay incurred is that required for its discharge at some British port, where it waits to be tried legally and in due form by the Prize Courts while the ship proceeds unharmed on her way. The inner history of the blockade methods of the British Navy is a most fascinating story, but there is hardly a soul outside naval circles in Great Britain who knows of the swift-working, never-failing system that has been built up, not to help Great Britain, but to avert hardship from neutral shipowners. That is one of the things the British Navy has done in the war and said nothing about.

Another remarkable achievement has been the increase in the personnel. In July, 1914, there were 150,000 active service ratings all told in the Navy. By now there will be 400,000. The veriest landlubber in the centre of a continent does not need to be told that you cannot make a man-o'-war's man in the way you make a Ford car—by turning a handle. The Navy has been increased to its present dimensions by taking the pick of the nation's brains. The British people are islanders and, therefore, are maritime by generations of inherited training, but though the spirit of Drake and Raleigh may give a sense of the sea it does not give a knowledge of the engine room. Hundreds of engineers from all sorts of works and factories are now naval officers—"temporary gentlemen," in the unkind phrase they have applied to themselves. Scores of old naval officers who had long since passed into retirement are back on the navigating bridge. Old admirals have shed their thick bands of gold lace and have shipped instead the narrow intertwined slips of braid of the Royal Naval Reserve captain in order to fill up the gaps. Barristers, singers, merchants and painters who spent their week-ends in peace times pottering round the Thames estuary in little yachts now spend their days and nights bucketting about the Atlantic in large merchant cruisers or tossing on the stormy waters off the Scottish coast in small patrol boats. Men who have fished for a living, men who owned 16ft. motor launches on the river Thames, men whose only knowledge of the sea was the yearly bathe at Brighton or Margate, are to-day rated A.B. and even wear the badges of petty officers and specialists. "Sea-adaptability" and the national need have taught them and made of them first-class men of the sea. The Navy has put its mark on them and they have made good, though their task was far harder than that of the men who joined the Army. When the war began the British Navy lacked two absolutely essential things—submarine-proof harbours in the North Sea and an immense mine-sweeping organisation. It has both now, but only a few people know the enormous risks that were run in the weeks that were occupied with the making good of those two defects. Nature has not been kind to Great Britain in the matter of harbours. There are plenty of magnificent bays in Ireland. There are fine sites for naval bases even on the West Coast of Scotland. But, search up and down the East Coast along the shores of the North Sea and you will find only one place that can possibly accommodate the enormous assemblage of ships that we call a fleet. It is not only a matter of housing a couple of score of dreadnoughts. A battle-fleet has a mass of attendant ships, light cruisers, destroyers, despatch boats, repair ships, store ships, distilling ships, aeroplane carriers, and depot ships whose number may easily be ten times that of the actual battleships themselves.

The base that would accommodate that number of ships had never been prepared for the purpose before the war. Its name was absolutely unknown to all but a handful of people outside the Navy. When war threatened, however, Jellicoe took his squadrons round there and then turned all hands to work to extemporise defences. How they laid nets here, there and everywhere, how they mined and buoyed, and trapped the waters of every approach to the base, how they organised a continuous patrol night and day by every kind of craft, from the twenty-year-old destroyer to the newest luxury yacht repainted navy grey in a few hours, is a tale that can only be guessed at at present.

The same sort of thing had to be done at every port on the East Coast that was turned into a temporary naval base. Fishing fleets were hurriedly turned out of their basins to make room for destroyers in half a score of places. Little fishing villages suddenly found the roadstead before them crowded with the ousted trawlers. And what of the trawlermen? Fishing was so strictly limited as to be almost prohibited. What were they to do for a living?

There was a Trawler Section of the Royal Naval Reserve that had been started in 1912 as a nucleus of a mine sweeping flotilla. The whole section, however, only numbered 142 officers and 1,136 men when the war began. But the light cruiser Amphion blew up on a mine within a few hours of the outbreak of war in sight of the British Coast. A German mine-layer was caught at work there and sent to the bottom. The blood of the East Coast fishermen was roused. They swarmed into the recruiting offices to join the Trawler Reserve. It grew and grew. In eight months from the start of the war the Admiralty admitted that it had put 610 trawlers into commission, and of that number Grimsby alone provided 400.

Brain power was needed at the head of affairs to keep the wheels working smoothly while this great organisation grew. The trawlermen had all the courage that was needed: scores of them perished in the work of sweeping up mines; but the unnamed men who sat in little offices on the quayside and thrust each brick into its place, designing the building pretty much as they went along, were the real heroes of those early months. Their work stands to-day in the most completely organised, smoothest running, most efficient mine-sweeping service in the world. It is to them that is due the fact that British patrols between Dover and Newcastle can pass 21,000 merchant ships along a well defined route every three months and lose but one in 7,000 by mine disaster. That is another of the things of which the British Navy has reason to be proud in this war. H. C. FERRABY.

LITERATURE

A BOOK OF THE WEEK

The Memoirs of a Balkan Diplomatist, by Count Chedomille Mijatovich. (Cassell.)

COUNT MIJATOVICH in this book does not deal to any great extent with the doings of the present time. The war supplies him with only one chapter, although an interesting one. But he very successfully reproduces the atmosphere and environment of the Balkans. His father was a scholar from Frushka Gora in Syrmia, and his mother, a very remarkable woman, was the great-granddaughter of a famous Serbian soldier. He was brought up amid the superstition of the East. His mother, indeed, had unique opportunities for acquiring it. When she was a child in her sixth year she was wiled into captivity by an old woman, a magician or medicine woman, because it was necessary that a woman magician should have the collaboration of a young and innocent girl. It was six years before she was discovered. Her story resembles in a way that of Bonnie Kilmeny, who was carried off by the fairies and did not return till "seven lang years had come and gane." She was married in her fifteenth year, so that she was only thirty-one when her son was fifteen, a circumstance that enables us to understand how companionable they were and how she taught him all the practices which she had observed in her stay with the witch. The astonishing stories related of the miraculous powers of those Balkan women are too long to quote, but the reader should not omit them. Among other childish memories, he relates to us the story of a sort of procession to the Church and to the coffin containing the embalmed body of Czar Lazar, the hero of the battle of Kossovo, "who died gloriously for the Holy Cross and our precious liberty." The author's own

fortune was told and came true, by what means let the learned decide when they convene. But after this the book contains less of wizardry and more of ordinary life.

The author appears to us, alike from his photograph and from his story, to be a keen, energetic man, and his career confirms this. It seemed to him ridiculous that the son of a poor Serbian professor should be sent to foreign courts and should shake hands with kings and queens, but in process of time the Government of Serbia sent him to foreign universities at the expense of the nation, and subsequently he became professor at the high school of Belgrade. The book is a large one, and the chapter of most solid interest is that dealing with the Great War. Taken with what goes before, it throws an extraordinarily strong light on the circumstances that led up to the huge conflict. He traces the working back to the Treaty of San Stefano in 1878 and its sequel, the Congress of Berlin, from which it will be remembered Lord Beaconsfield came back with his famous phrase, Peace with Honour. But the other parties to the Conference were not so happy :

> Humiliated Russia naturally vowed vengeance then and there. I remember that Jovan Ristich, the only representative of Serbia at the Berlin Congress, told me on his return that when, distressed and heartbroken, he went to Count Shuvaloff and asked how he could sacrifice Bosnia and Herzegovina to Austrian occupation, the Count answered : "Don't be alarmed, have patience ; in ten years we will have a great war and all this will be changed."

From that time, too, Bismarck had to take precautions against an eventual Russian attack, and in accordance with that necessity went to Vienna and afterwards to Rome, and so produced the Triple Alliance, which in its turn led to a defensive alliance between Russia and France, and finally to the Triple Entente. With a Triple Entente and a Triple Alliance facing each other in Europe, war was inevitable :

> everybody who had eyes to see, ears to hear and brains to draw conclusions, could gather from the fact that the component Powers in each were indefatigably increasing and perfecting their military forces.

Of course, this is worked out with more detail than we can go into here, but it is extremely interesting. Since 1903 Russian influence has been paramount in Serbia, while the connection with Austro-Hungary was ever increasing in acerbity. In the course of his analysis our author gives an account of the peace negotiations in 1913 between the Balkan belligerents in London. He says :

> Of all the Balkan delegates, Greece's first delegate, Mr. Venizelos, made the best impression in diplomatic circles and in London Society. He looked a born gentleman, of fine manners, consideration for others, dignified, yet natural and simple. He, as well as the Serbian delegates, had to exercise forbearance and patience with their somewhat overbearing Bulgarian colleague, Mr. Daneff, who moved, spoke and conducted himself as if he were the chief of all the delegates.

Among his declarations perhaps the most remarkable is this :

> So far as I know the facts of the Balkan situation—and I have been watching their emergence and development for the last forty-five years—I do not hesitate to say that Austria, and not Germany, provoked the War. But, for practical purposes, Germany and Austria are one body and soul, and equally share the responsibility for the colossal catastrophe.

In reading the account it must be kept in mind that although Count Mijatovich was originally a professor and a historian, he is still a Balkan statesman, and therefore inclined to exaggerate the importance of what came most closely under his own observation. The causes of the war, when studied from the European standpoint, go deeper than is suggested by this tale of petty rivalries and jealousies.

But lest the reader should exaggerate the seriousness of the book, it may be well to take a chapter of quite a different kind, that devoted to "Mackenzie of Gairloch and Others," as a sample of the writer's lighter style. One would not at first glance expect a Serbian to get the exact coefficient of a Scottish laird of the twentieth century, and yet Sir Walter Scott could not have presented him more accurately. Mackenzie of Gairloch had gone to Serbia in the summer of 1876 during the war with Turkey in order to do Red Cross work with the Serbian army. He was a rich man and spent thousands of pounds in supporting the widows and orphans of fallen Serbian soldiers. "Some of his experiences," in the words of our author, "were singular, to put it mildly." With the permission of the Serbian Government he went to Ujitsa (the principal town in South-Western Serbia) and tried to induce hundreds of Montenegrins to make a road, paying them good wages, but after they had gone on for three weeks they came to him in a body and refused to work because they said the English Queen Victoria had sent thousands of pounds to be distributed among them without exacting any labour. They insisted that he should disgorge Queen Victoria's sovereigns, and eventually the police had to be called in for his protection. Thus was charity misunderstood.

The Scottish Puritan had great difficulty in understanding the morality of the Serbs. During his charitable labours in Belgrade he had made the acquaintance of "a labourer, a Nazarene, who had two beautiful daughters, of whom the elder was a prostitute and the younger was at home, dying slowly of consumption." Mackenzie tried to reclaim the elder girl, but she laughed him to scorn. She said she had made her knees sore with praying and all for no good, and with her needle she could not earn tenpence a day. Terrified by the illness of her father and sister, she had sold herself and got money enough to call in a doctor. Mackenzie spoke to the girl's father, telling him that his eldest daughter was not earning money in a way pleasing to God or honourable, and begged him not to accept her money for the younger daughter and he himself would give her a weekly allowance and even more than her unworthy sister used to supply her with. He was as good as his word and even better, but after he had supported the girl for several weeks, one day the father stopped him at the threshold and told him that their elders had confided Mackenzie's advice and support to the bishop and

> "They have received," he said, "the bishop's order, which is as follows," and he opened a leather bag, produced a paper and read : "'The ailing sister ought to accept help from her elder sister because, although a prostitute, she is still her sister ; she ought not to accept the assistance of a man who is a stranger and not a Nazarene.'"

Very characteristic of the Scottish laird is the following incident. Twelve of his horses had been requisitioned from his stables and the British Minister informed him that if necessary the Government would interfere, but Mackenzie very generously presented the Serbs with the animals. Only it is in his economy that the point lies. He telegraphed, but seeing that the message was to cost threepence halfpenny a word, spent a considerable time trying to shorten it. The author says that his Scottish friend kept hammering his brain for a laconic despatch until at length he burst out laughing.

> Mr. Mackenzie looked at me in amazement and asked what was amusing me.
>
> "I am laughing," I said, "because just now you presented the Serbian Government with a couple of hundred pounds, and now you cudgel your brains and let our luncheon get cold merely to squeeze a few pence out of this telegram."
>
> "My dear friend, if I do not try to save a few pence whenever I can, do you think I would ever be in a position to give away a couple of hundred pounds ?" And then *he* laughed heartily. And I had to acknowledge that his laugh had more justification than mine.

There is a great deal about the worthy Mr. Mackenzie, and the author achieves the supreme effect of having produced the living and authentic portrait of an uncommon type of Scotsman.

The City Churches, by Margaret Tabor. (Headley Brothers, 2s. 6d.)

AMONG the treasures of the City of London her many churches hold a high place. As Mr. L. Cope Cornford writes in his introduction, they form "a treasure which all its gold could not buy and which if it be once destroyed is gone for ever." This small book gives a short description of the fabric and history of all the notable City churches, with maps, and a very helpful list of churches arranged under the headings : "Churches built before the Great Fire," "Churches built by Sir Christopher Wren," and "Churches built after the time of Wren" ; also a list of the "Demolished Churches." The volume is small and compact, and the illustrations and notes upon architecture make it an interesting book of reference for the student as well as a helpful guide to the stranger bent on seeing the beauties of London, or the citizen newly aroused to consciousness of the worth of his great inheritance.

Exmouth School, by E. B. Michell. (Privately published, 1s.)

THIS little book has for its second title "Verses from one Old Pupil to Another," and it is easy to imagine the pleasure that has been taken in their composition by one pupil and with which they will be read by the other. Their author, though he describes them as "doggerel verses," succeeds in creating a very clear picture of life at a boys' school half a century ago. If the subject is not one likely to inspire a poet to great verse he has, at least, paid a high tribute to "the small but splendid Exmouth School," and "that stern master John Penrose," of whom he says with gentle humour :

> "Penrose by dint of writing verse,
> Did almost, I feel sure, begin
> To think false quantities much worse
> Than many a full-blown deadly sin."

Henry Cook, the second master of that time, seems to have been the idol of the boys, however, and apparently this pupil has seen in later life no reason to repent his boyish worship. A book which will be dearly prized by members of the small circle to which its interest and reminiscence are particularly addressed.

CORRESPONDENCE

THE SCARCITY OF INSECTIVOROUS BIRDS.

[To the Editor of "Country Life."]

Sir,—I wonder how many of your readers have been struck as much as I have been with the absence of so many tiny feathered guests from the garden this year. The one I miss most is the wren. It used to flutter about in all the most sequestered nooks of the garden, under the currant and gooseberry bushes, in and out of the old stable and among the young yew trees. Not one has been visible this year; and hardly a robin. Its nest was the commonest in the garden. You could not take ten steps without seeing a robin. Now it has become a rare visitor. The little blue tit and the cole tit used to frequent the garden and the orchard all the year round; now only on rare occasions does one pay a casual visit. Blackbirds and song thrushes last year were a pest, over and over again when they raided the strawberry beds and the raspberry plantation I was almost driven to take extreme measures against them, and at times called myself a soft sentimentalist for not doing so. Now one is happy to see one as a rare visitor. There appeared to be something wrong in early spring when one noted the absence of their joyous mating song, and the garden should be more tempting to them than ever. The flower beds are a wilderness, but there is a superabundance of the common sorts of fruit and vegetables. Moreover, it is very quiet and undisturbed. I could not have believed it if the evidence was not thrust before my eyes that the pitiful cold of last winter could have effected so fearful a thinning out of the little feathered people. There is no reason I can think of why, if they were alive they should not return to haunts where they were always welcome in spite of depredation, and even hospitably entertained during their stay.—A Herts Yeoman.

THE CARE OF COUNTRY CHILDREN.

[To the Editor of "Country Life."]

Sir,—I have been interested in your Leader on the care of country children. May I suggest that one of the most important factors in the care of the country child is in the matter of education? I frequently stay at an old seaside village in Norfolk, a county for which I have a great liking, and where there is good golf. It is a beautiful district, noted for its sea and land birds and for its wealth of wild flowers. There is a fine, upstanding peasantry, bright children, and just the place where a very rich man—such as you refer to in your Leader—might decide to send his children. Children growing up in a place like this ought to be interested in the local wild life—sea, land, and migratory birds, wild flowers, trees, the various growths of corn, and generally the life around them. When I was last in Norfolk a quite intelligent girl was carrying my golf clubs (she expected to pass into the Post Office), but when I asked her about the bird life and for the names of certain birds and flowers she said "she had not been told; they did not teach these things." It was the same with other general subjects of country interest. Why cannot the influential people in the village insist that round the schoolroom there should be hung pictures illustrating the birds of the district in winter and summer plumage; the wild flowers; the trees in their summer and winter aspect; the bark of the trees; pictures also of the best varieties of corn and how to distinguish them from the secondary varieties; pictures showing how a good potato differs from an inferior one; and kindred subjects, with a few lines of concise explanatory description under each picture? The schoolroom walls would then be of value from an educational standpoint. These pictures should be changed every month or six weeks; the walls of the schoolroom would always be more or less a picture gallery, and the children would quite unconsciously pick up a vast amount of information, although, of course, in addition to this, lessons should be given explaining these subjects. A child with this knowledge would have an enormously increased interest in life and in the beauties and wonders of nature as compared with the child of whom I was speaking, who wanted to know but was not told. In Hungary there are framed wax tablets hanging on the walls of the schools, and on these tablets are facsimiles of the footmarks of all the beasts and birds of the district. I take it that these are snow impressions. Unfortunately, I am a Londoner, but if I lived in the country I can quite well imagine the very great interest I should take in looking after a scheme run something on these lines in the school in my village. Such illustrations as I suggest are possibly obtainable, but I do not know where, and, anyway, would it not be worth your while, with your incomparable collection of bird and animal photographs, to start a series of this kind for country schools? I should only be too pleased to subscribe and give a set to some school I should name.—Norfolk.

ECONOMY IN FUEL.

[To the Editor of "Country Life."]

Sir,—One of the most important subjects for economy in these days of stress is undoubtedly the coal consumption of our households—every ton saved from home use is so much set free for the export which, we are told, is so necessary to redress the increasing "trade balance against us." National economy and personal economy are one and the same thing here. It therefore behoves the head of every household to look into the methods of warming and cooking which are under his control. (1) Is the kitchen range of an economical pattern? (2) Are the fire grates throughout the house of a slow combustion type? (3) Is the hot water apparatus of a modern kind? The writer has effected a great saving in the amount of fuel used in his own house (*a*) by the addition of a "rising and falling fire attachment" to the cooking range, by which a small fire only need be retained during the periods of the day when the oven is not in use—most kitcheners are "coal-eaters." (*b*) By installing slow combustion stoves in the sitting-rooms in place of the extravagant round-topped Victorian "registers" which he had previously endured—the saving of coal in the dining-room alone amounts to more than 50 per cent. each day! He has not injured his landlord's property because the old grates were not "antiques" in any good sense of the word. For less important rooms—and for offices—the recently introduced "front attachments" for converting an old-fashioned fire grate into one of the "barless" type have much to recommend them, especially as they cost but a few shillings each. (*c*) The substitution of an "independent" boiler, burning coke, for the usually unsatisfactory "back boiler" (which only gives one a hot bath in the early morning by a prodigious expenditure of fuel overnight) is greatly to be wished for. The writer having become thoroughly tired of a tepid water supply, was persuaded to purchase a boiler capable of being worked independently of the kitchen fire, and now enjoys a service of really hot water at all hours of the twenty-four at a cost of less than sixpence a day. A word also to public authorities may not come amiss in this matter of fuel economy; and who can doubt that an inspection of the heating and lighting of our railway stations—especially the smaller places—would result in great reductions of consumption by the substitution of more modern systems than those now employed—systems which, in many instances, must be cœval with the first equipment of the line!—G. S. M.

MOISTURE IN BREAD.

[To the Editor of "Country Life."]

Sir,—Your interesting article in this week's Country Life does not deal with the percentage of moisture in the bread. This I believe to be the crux of the matter. Modern bread is insufficiently fermented and baked, especially the latter. Bakers under the four-pound law could not ferment and bake their bread enough unless all were compelled to limit the percentage of moisture in their bread, as is the case with butter, etc. If one baker by his skill is enabled to leave 1 per cent. more moisture in his bread than his competitors, in a cash trade he increases the profit on his turnover 20 per cent. It is not so much the loss the public suffers in buying water as bread as the serious injury to their health (especially that of the children) caused by the steps the bakers are compelled to take to make the bread retain its moisture. We shall never again have the good flavour obtained in the old wood-heated brick ovens and by using brewers' (hopped) barm to ferment, but the flue oven was better than the now universal steam-heated oven. The bakers themselves are now agitating to compel the millers to limit the moisture in flour to 15 per cent. The moisture in bread should be limited to 30 per cent. or thereabouts. My own bread, well fermented and well baked, though made from ordinary war flour, is better at a week old than when new.—H. A. Wadworth.

BOTTLING STRAWBERRIES AND RASPBERRIES.

[To the Editor of "Country Life."]

Sir,—Would you kindly let me know through your Correspondence columns how to bottle strawberries and raspberries *whole?* Is sugar needed, and do they keep well when bottled?—A. H. P.

[There are more disappointments over bottled strawberries than any other kind of fruit. Raspberries, loganberries, cherries, blackberries, gooseberries, red and white currants and black currants may all be bottled quite easily, but strawberries, being so largely composed of water, are difficult to bottle satisfactorily. However, they may be bottled, and there were some excellent examples of bottled strawberries shown by Mr. Vincent Banks at the last meeting of the Royal Horticultural Society which he had bottled in the following way: Gather the fruit on a dry day, pick off the stalks and pack the berries into bottles as tightly as possible without crushing them. It is not necessary to add sugar, although white sugar may be used, but do *not* add any water. Place the bottles in the boiling pan, which must be deep enough to more than cover the shoulders of the bottles, and bring very *slowly* up to a temperature of 150deg. Fahr. to 165deg. Fahr., and maintain this temperature for five minutes. It will then be observed that the strawberries have shrunk down in their own juice. Take out the bottles and fill up one bottle from another, then put them back in the pan and bring them quickly up to 165deg., keeping them at that temperature for about five minutes. Take out the bottles and fasten them up. At no time should the bottles be screwed tightly down *before* putting them into the boiling pan, or they would probably burst. Even then the bottles will not be quite full of fruit, but, as no water has been added, the liquid is pure strawberry juice. Neither must the bottles be allowed to touch the sides or bottom of the pan, as this will almost certainly crack them. Raspberries are less troublesome to bottle, but they need very careful handling to avoid crushing, while it is most important that the fruits should be bottled the same day as they are picked. Select good sound fruits, not over-ripe, and fill the bottles. Then carefully pour on cold water and pour it off again by way of washing the fruits. Repeat the washing, keeping the berries from falling out by placing the fingers over the neck of the bottle. After washing in this way, fill to overflowing with cold water, place the bottles in the boiling pan, cover to within an inch of the top of the bottles with water, and bring slowly up to a temperature of 155deg. Keep at that temperature for five minutes, then take out and fasten down immediately. The vacuum tin covered or glass-topped screw-banded bottles are the best, but if they cannot be obtained, the old-fashioned method of sealing down with mutton fat may be adopted; that is by pouring on the top some previously melted clarified hot mutton fat to about half an inch in thickness. This must be done immediately on taking out from the boiling pan. Tie vegetable parchment covers over the jars instantly and set the jars to cool before storing. If stored on dry, cool, airy shelves the fruit should keep good for at least twelve months, but it is advisable to examine the bottles occasionally. Care must be taken not to tilt the bottles when put away, or the fat may become displaced, which would admit air and so allow fermentation to take place.—Ed.]

WEED ON CROQUET LAWN AND POND WEED.

[To the Editor of "Country Life."]

Sir,—Will you very kindly name (*a*) the weed herewith enclosed, which is damaging a lawn, and (*b*) the water weed which is clouding the water of ponds near Taunton? Perhaps you will be good enough to indicate a remedy in each case.—H. B. T.

[The weed from the lawn is yarrow. There are many preparations on the market for killing weeds, but none so good as hand-weeding. It is tedious, but effective and economical. The scum which is clouding the water of ponds is caused by algæ, a low order of plant life allied to seaweeds. Much trouble has been caused by its presence in reservoirs; in addition to its loathsome appearance, it frequently has an abominable stench. As a result of a good deal of experimental work, it is found that copper sulphate is the most satisfactory chemical to use. It is poisonous in its action; one part to 1,000,000 parts of water is sufficient to kill algæ, but one part in 750,000 parts of water causes no injury to water lilies or to fish. In the first place a careful calculation must be made of the holding capacity of the pond. Then the weight of the water may be taken at about sixty-two and one-third pounds to the cubic foot and the copper sulphate used in proportion. It may be applied in two ways—either dissolved in a little water and sprayed over the surface of the pond, or tied in a canvas bag and drawn through the water from a boat until dissolved. As a rule, two applications a year will keep the water clean.—Ed.]

DRYING MINT.

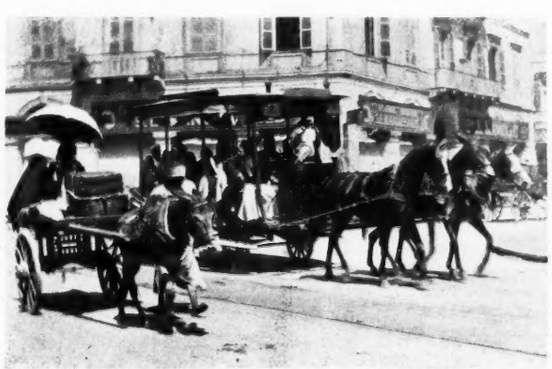
[To the Editor of "Country Life."]

Sir,—Both garden and wild mint, like seed, are best wind dried. It is best to cut the mints and tie them in handful bundles, lay them out in the wind, but screened from direct sun, and turn them over several times during two or three days, then tie several bunches together, insert them head downward in linen or paper bags and hang them in a cool, dry room for winter use, as wanted, which is better than bottling the shredded leaves. Good mint may be grown with a little care all through the winter in the attic of a house, which, as a rule, is the warmest room in winter.—Senex.

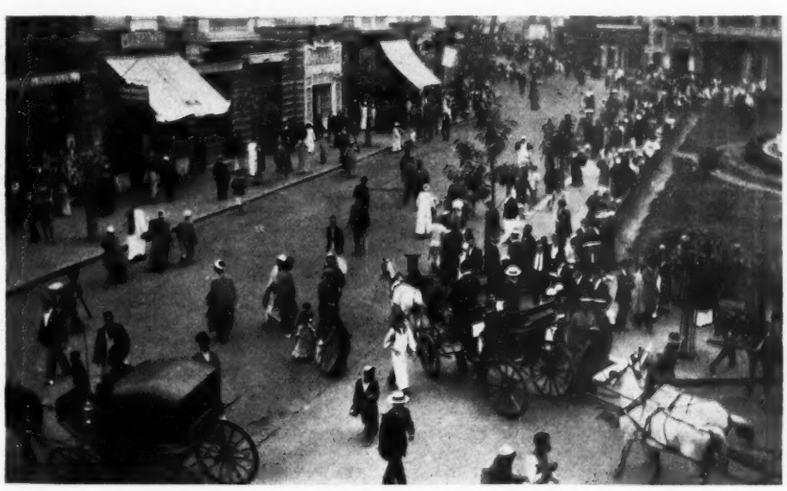
IN OLD CAIRO.

[To the Editor of "Country Life."]

Sir,—I beg to forward you the enclosed photographs showing typical street scenes in the native quarters of Old Cairo, some of the back streets here are really a maze of narrow lanes and alleys, running between high houses, which are set at every conceivable angle; some of the lanes are no more than 5ft. wide. Every kind of Oriental manufacture is carried on in this native quarter. One sees slippers, laces, garments, glass ware, copper goods, brasswork and general stores being made and offered for sale. The purchase of any article proceeds on the lines of a Dutch auction; the buying of a carpet has been known to extend over three weeks with occasional sipping of coffee and smoking of cigarettes, as the vendor usually asks about three times the price he eventually means to accept. One is greatly impressed by the variety of costumes seen in the streets and the curious cries of the hawkers. A cosmopolitan crowd is shown in one photograph, and in the other one sees a native 'bus drawn by two Arab horses with a mule in the centre. The fare of these 'buses is about one farthing per mile.—S. A. Brown.



A NATIVE 'BUS.



HOW MANY NATIONALITIES MEET HERE?

"OLD BAR HOUSE."

[To the Editor of "Country Life."]

Sir,—I think this is without doubt the smallest house in England which can boast of the privileges it gives to the occupant. The cottage is in two parishes, the dividing line between the Keighley Borough and the Steeton Parish cuts right through the house, so that the occupant can truly claim to live in Keighley and sleep in Steeton and yet live in this small cottage. The house consists of two rooms only, and has been occupied by the old dame who lives there for the past twenty years. She is an eccentric old lady, lives alone, and is in receipt of the Old Age Pension. The rent paid for the house is very small indeed. She claims to have received a letter from the late Queen Victoria, a copy of which she treasures and shows to anyone who takes an interest in her. She is active in knitting socks for soldiers, and claims to be "doing her bit." In her early days she was a hand-loom weaver. I wonder how the occupiers of such houses will be affected by the new Representation of the People Bill recently introduced into Parliament. If the dividing line between two Parliamentary districts divides a house in two, will the occupier of such a house be entitled to two Parliamentary votes, one for each Division?—W. Sugden.

ONE HOUSE IN TWO PARISHES.

THE PRICE OF TRAINED HAWKS.

[To the Editor of "Country Life."]

Sir,—I wonder if any of your readers could tell me the approximate cost of each of the following birds, when properly trained for falconry: (1) peregrine, (2) merlin, (3) hobby, (4) goshawk, (5) sparrowhawk.—T. F. O'Reilly.

[We sent our correspondent's query to "Æsalon," who replies as follows: "It should be said in answer to Mr. T. F. O'Reilly that during the war—and for that matter before it broke out—there is no regular or normal price for trained hawks. The very good reason is, and was, that there is no market for them. Occasionally one sees an advertisement that a trained hawk is to be sold; but in these cases the price given will vary so greatly that it affords little or no criterion as to the average value of the particular species dealt in. Mr. Arthur Newall, now, alas, removed by death from the small list of accomplished falconers, parted with his famous goshawk, Gaiety Girl, for £20, and always thought that he had had the worst of the bargain. But to say that trained goshawks as a rule can be sold for anything like that sum would be absurd. The old Hawking Club used occasionally to sell off some of their trained peregrines. But these were, naturally, not the best of the lot; and the price given for them would be laughed at by the seller—if a seller could, *per impossibile*, be found—for an express falcon like Parachute, or a tiercel like Major Fisher's first Lundy. The late Lord Sondes once bought some trained eyess merlins for £4 apiece, and was so well pleased with the result that he bought others at the same price. But certainly a merlin, either eyess or haggard, to be worth as much as this must be of very exceptional merit. As for sparrowhawks, I do not remember any case of a trained one being sold. In fact, excepting Mr. John Riley, hardly any amateur falconers, and very few professionals, have succeeded in reclaiming one since the days of Sir J. Sebright and Mr. G. E. Freeman. But a 'good hawk for the bush,' as Shakespeare calls it, ought to be worth at least more than a merlin. Hobbies have not been a success when trained within the memory of man, although highly reputed by the old falconers. As their numbers have increased within the last few years, eyesses ought to be procurable, and the reclaiming of hobbies is ridiculously easy; so that if any person—barring the war—chose to advertise early in the year that he would give a good price for a trained hobby, he would very possibly be able to get one. But in these modern times hawking does not fit itself in with war, as it did when Edward III took a whole lot of falcons and falconers with him to the French wars."—Ed.]

EARNING HER FOURPENCE A DAY.

CARRYING FRUIT IN THE HIMALAYAS.

INDIAN FRUIT BY PARCEL POST.

[To the Editor of "Country Life."]

Sir,—Owing to the climate English fruit can be grown in India only at the higher elevations. There is, however, a good demand for such fruit and many orchards are to be found scattered throughout the Himalayas. Probably the best fruit is that grown in the Kulu valley, as the upper reaches of the Beas river are called. The great difficulty in the way of this industry is getting the fruit to the market. Kulu town itself is over a hundred miles from the nearest railway and the orchards may be anything up to another thirty miles. All the fruit from this district has therefore to be exported by Parcel Post, and during the fruit season the Post Office makes special arrangements for a fruit service. The fruit is packed in round baskets, each containing 9lb. net of fruit, and the whole parcel comes within the 11lb. limit. Each of the orchards has its own branch post office, from which the baskets are sent into Kulu, whence they start together on their long journey to the plains. For the first seventy miles the mail has to be carried by coolies, and stages are laid out every five miles where the coolies are changed. A good deal of the carriage is done by women, who seem to like the work, for the loads are not heavy, the stages short, and the pay—fourpence a day—is riches to the hill-woman. Parts of the road are very bad, especially where it crosses the Bhubu Pass, 10,000ft. above sea-level. The fruit is despatched to all parts of India, Burma and Ceylon, and even as far as the Malay States and Mesopotamia. Delivered at one's door the fruit costs five shillings for a 9lb. basket. Of this the producer gets three shillings, while the Post Office receives two shillings for postage and V. P. P (Valuable Payable Post) fee. Considering the difficulties of the journey it must be admitted that the postal authorities give very good value for the money. I enclose two photographs of coolies taking down the fruit.—H. L. Wright, Mandi State, Punjab, India.

FISHING IN MESOPOTAMIA.

[To the Editor of "Country Life."]

Sir,—I am sending you an extract from a letter from my son who is now in Mesopotamia, with a photograph which you may like to publish:

Mesopotamia, February 14th, 1917.

"On Friday I did a most extraordinary thing. I caught the record fish for this part of the world on a rod. You may not believe it, but it weighed 93lb. (ninety-three pounds). The extraordinary part about it was that it didn't catch me! It was 5ft. long and 34in. in girth, span of tail 10in., and its head alone was as big as a pony's. I have never known before what it was to play a fish, but I am not likely to forget now, as my arms were so stiff for two days that I could hardly bend them. He fought like a fiend for twenty minutes, sometimes rushing off with about 60yds. of line and taking all my strength to reel him in. Then off he would dash again till I could hardly hold the rod upright. Perhaps the most wonderful part about it all was that the butt of my rod consisted of a pick-handle, and the reel was just tied on with string; also that we hadn't a gaff or net to land him with. Meade went in with a revolver in case he tried to eat him (!) and managed to collar him behind the gills; and then we got two or three Sepoys to haul him up the bank. They call him Gitan, a Euphrates salmon, for want of a better name. The same evening Meade and I dined with a couple of Brigadiers and much red plaster, who were very interested in the catch and made us send it round for inspection. I was glad to do so, as it's well to have witnesses in fishing matters. One of the Brigadiers in question is a great fisherman and said it was undoubtedly the record for a rod, though a 108-pounder was caught here on a hand line. I have kept the gill-plates and the back jawbone, which resembles a cow's. You'd never think they belonged to a fish. I hope to send a photograph of him later, if they come out.—E. N. C." —W. G. C.

A MONSTER BARBEL.

[We sent our correspondent's letter and photograph to Professor Boulenger, who writes as follows: "The fish is a barbel, closely related to our British species. Its scientific name is Barbus scheich, as may be readily ascertained by referring to the 'key' prepared by me for the benefit of anglers in Mesopotamia, which appeared in Country Life, March 11th, 1916, page 351, and which was reproduced in the *Fishing Gazette* shortly after. So far as my information then went, this fish was known to reach a length of 3½ft. The specimen here represented is therefore a record. It is surprising to me that such fish should go by the name of 'salmon,' considering the shape of the head, the toothless mouth with fleshy lips, the very small eyes, and the absence of the second dorsal fin, the so-called 'adipose' fin, which is characteristic of all salmon and trout. There is, it is true, another fish of the carp family in Mesopotamia with smaller scales and a silvery coloration with numerous black dots or C or X-shaped spots on the back, which is more suggestive of a salmon, and which bears the name of Scaphiodon trutta."—Ed.]

AN ENTICING SIGNPOST.

[To the Editor.]

Sir,—I beg to enclose a photograph of a notice board which has put the usual wording of such notices in a most unfavourable light. Compare the usual "Trespassers prosecuted" with this and it is not hard to say which would have the best effect. Who could resist such an appeal? By the way, this was not taken in England, but in a British possession.—W. H. McIlroy.

IRRESISTIBLE!